MONTHLY WEATHER REVIEW.

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INTRODUCTION.

The REVIEW for September, 1894, is based on reports from 3,475 stations occupied by regular and voluntary observers. These reports are classified as follows: 149 reports from Weather Bureau stations; 41 reports from U. S. Army post surgeons; 2,506 monthly reports from State Weather Service and voluntary observers; 32 reports from Canadian stations; 223 reports through the Southern Pacific Railway Company; 476 marine reports through the co-operation of the Hydrographic Office, Navy Department, and "New York Herald Weather Service;" monthly reports from 40 U. S. Life-Saving stations; 8 reports from navigators on the Great Lakes; monthly reports from local services established in all States and Territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

The WEATHER REVIEW for this month has been prepared under the general editorial supervision of Prof. Cleveland Abbe. Unless otherwise specifically noted, the text is written by the editor, but the statistical tables are furnished by the Division of Records and Meteorological Data, in charge of Mr. A. J. Henry, acting chief of that division.

CHARACTERISTICS OF THE WEATHER FOR SEPTEMBER, 1894.

The most prominent features of the month of September were the hurricane which entered the Windward Islands on the 20th, passed over Cuba on the 24th, and was moving northeastward south of Cape Cod on the 30th; the dry and hot weather which generally prevailed over the United States, but which was gradually brought to an end by a series of local rains; the remarkable series of local tornadoes that prevailed on the 21st in the Northwest, and which have been made the subject of a special discussion by Prof. H. A. Hazen.

ATMOSPHERIC PRESSURE.

[*In inches and hundredths.*]

The distribution of mean atmospheric pressure reduced to sea level, as shown by mercurial barometers not reduced to standard gravity and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), during September, 1894, is shown by isobars on Chart II. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border. This Chart also gives the so-called resultant wind directions for this month, based on the data given in Table IX of this REVIEW.

During the current month of September pressures have been highest, 30.14 at St. Vincent, 30.13 at Halifax, Yarmouth, and Block Island, and 30.11 at Key West; lowest, 29.86 at St. Vincent, and still lower to the northward. The low area of the Gulf of California is shown by the averages, 29.85, at Tucson and, 29.79, at Yuma.

The normal distribution of atmospheric pressure and normal resultant wind direction for the month of September were approximately shown on Chart V of the REVIEW for September, 1893, as computed by Prof. H. A. Hazen, and are not now reproduced. As compared with the normal for September, the mean pressure for the current month was above the normal in New England and Nova Scotia, but below the normal in the Lake region, Northwest, Manitoba, and Saskatchewan. The maximum deficit was 0.11, at Pierre, S. Dak.

As compared with the preceding month of August, the pressures, reduced to sea level, show a maximum fall of 0.14 at St. Vincent and 0.11 at Key West, and a maximum rise of 0.14 at Eastport.

DIURNAL VARIATIONS.

The systematic periodic diurnal variations of pressure are shown by the hourly means given in Table VI.

AREAS OF HIGH AND LOW PRESSURE.

The following sections give some details as to the phenomena attending the individual areas of high and low pressure. The storm warnings officially issued by the Weather Bureau either through the general forecast official at Washington, or by the respective local forecast officials, are enumerated in connection with the respective areas of disturbance.

MOVEMENTS OF CENTERS.

The following table shows the date and location of the center at the beginning and ending of each area of high or low pressure that has appeared on the U. S. Weather Maps during the month, together with the average daily and hourly velocities. The monthly averages will differ according as we consider each path as a distinct unit, or give equal weight

to each day of observation; in the first case the monthly average is taken by paths, in the latter case by days.

Movements of centers of areas of high and low pressure.

Number.	First observed.			Last observed.			Path.		Average velocities.	
	Date.	Lat. N.	Long. W.	Date.	Lat. N.	Long. W.	Length.	Duration.	Daily.	Hourly.
High areas.		°	°		°	°	*Miles.*	*Days.*	*Miles.*	*Miles.*
I	1, a. m.	34	73	3, a. m.	37	76	500	2.0	250	10.0
II	1, a. m.	43	126	8, a. m.	46	65	4,300	7.0	614	26.0
III	1, p. m.	55	89	5, a. m.	38	74	1,850	4.0	463	19.0
IV	5, p. m.	45	129	17, a. m.	44	59	4,600	12.5	368	15.0
V	8, p. m.	30	84	10, a. m.	31	85	700	1.5	467	20.0
VI	12, a. m.	42	126	16, a. m.	43	85	2,800	4.0	700	29.0
VII	15, p. m.	48	125	18, p. m.	48	79	2,400	3.0	800	33.0
VIII	17, p. m.	43	129	21, a. m.	40	114	1,600	3.5	457	19.0
IX	20, a. m.	46	100							
X	20, a. m.	35	89	22, a. m.	37	71	1,150	2.0	575	26.0
XI	21, p. m.	46	129	30, p. m.	49	57	5,800	9.0	644	27.0
XII	23, a. m.	33	81	23, p. m.	32	78	200	0.5		
XIII	25, p. m.	37	125	28, p. m.	41	123	600	3.0	200	8.0
XIV	28, a. m.	34	105	30, p. m.	39	91	1,500	2.5	600	25.0
Sums							27,600	54.5	6,124	
Mean of 12 paths									510	21.2
Mean of 54.5 days									506	21.1
Low areas.										
I										
II	1, a. m.	49	101	1, p. m.	48	96	150	0.5		
III	1, a. m.	47	57							
IV	2, a. m.	49	67							
V	3, a. m.	54	115	8, p. m.	42	89	1,750	6.5	269	11.0
Va	2, p. m.	53	108	3, a. m.	48	99	750	0.5		
Vb	3, p. m.	54	107	4, a. m.	55	104	200	0.5		
VI	4, p. m.	46	76	5, p. m.	49	56	1,000	1.0	1,000	42.0
VII	5, a. m.	27	88	6, p. m.	32	87	300	1.5	200	8.0
VIII	7, p. m.	55	113	11, a. m.	46	58	2,750	3.5	786	33.0
IX	10, p. m.	53	115	16, p. m.	52	88	2,300	6.0	383	16.0
IXa	13, p. m.	41	101							
IXb	13, p. m.	43	98							
X	16, p. m.	57	121	19, a. m.	52	96	1,300	2.5	520	22.0
XI	16, a. m.	26	94	21, a. m.	48	65	2,500	5.0	500	21.0
XII	20, a. m.	15	59	30, p. m.	39	70	2,900	10.5	276	12.0
XIII	20, p. m.	58	115	24, a. m.	56	60	2,200	3.5	687	29.0
XIV	22, a. m.	35?	130?	30, p. m.	51	77	3,300	8.5	389	16.0
XIVa	25, p. m.	47	103	26, a. m.	52	95	500	0.5		
XV	28, a. m.	45?	130	30, p. m.	51	119	850	2.5	340	14.0
Sums							22,750	53.0	5,350	
Mean of 11 paths									486	20.0
Mean of 53 days									429	17.9

HIGH AREAS.

I.—On the 1st, a. m., pressure was highest on the Atlantic coast and so continued, gradually disappearing by the 3d, a. m.

II.—The map of the 1st, a. m., shows a slight high pressure advancing eastward toward the California coast. The central pressure was, by the 3d, a. m., in Oregon. During the 5th this merged into a general high pressure, reaching entirely across the continent, whose center on the 8th, a. m., was located in New Brunswick.

III.—This high pressure descended southeastward, between the 1st and the 5th, from the region north of Manitoba, and disappeared on the mid-Atlantic coast.

IV.—The map of the 5th, p. m., shows a high pressure pushing eastward toward Oregon. This became a very extensive area, covering the Rocky Mountain plateau and eastern slope on the 10th and reaching the Atlantic Ocean by the 12th; it then merged into the Atlantic high pressure and had entirely disappeared by the 17th.

V.—This was a small elevation pushing in from the Atlantic and West Indian regions northwestward over the south Atlantic States; it prevailed during the 8th, 9th, and 10th.

VII.—On the 12th, a. m., high pressure again advanced from the Pacific toward Oregon, and by the 14th, a. m., was central in the Rocky Mountain plateau region, and by the 15th, a. m., stretched entirely across the continent from east to west. On the 16th this high pressure prevailed over the entire United States, but low pressures appeared on its northern edge near Lake Superior and on its southern edge over the Gulf of Mexico, after which this area was immediately succeeded by No. VII.

VII.—The map of the 15th, p. m., shows two regions of highest pressure in the general area of high pressure, of which the extreme western one over Oregon is called No. VII. The general area of high pressure, called the tropical area, which appears comparatively smooth and regular on the maps of monthly mean pressure is, in reality, the result of many ridges and areas of high pressure that appear on the daily maps under very diverse forms. The maps of the 15th and 16th present a temporary and almost complete agreement with the ideal suggested by the monthly maps, as we have here a broad belt of high pressure extending from beyond the Bermudas on the east to beyond the coast of Oregon on the west, presenting a belt stretching 5,000 miles east and west with the equatorial low pressure on its south side and the Arctic low pressure on the north. This is a partial realization of the mechanical problems treated of by Helmholtz in his first paper on atmospheric motion. The instability of this formation is due not so much to vertical or horizontal irregularities in the distribution of atmospheric density as to the resistances offered by the oceans, the continents, and the mountains to the motions of the atmosphere. These irregularities in the horizontal distribution of the coefficients of resistance allied to friction, but not properly so called, very soon break up the tropical high pressure into smaller areas moving about and feeding cyclonic centers. The areas Nos. VI and VII lost their continuity on the 15th, and during the 16th a number of well-marked low areas were in a state of rapid development, reproducing in the atmosphere the phenomena of uprushes and descending whirls that are seen in the turbulent motion of any river. By the 18th, a. m., area No. VII had become a long ridge, stretching from Kansas to James Bay, separating well-marked low areas in the Gulf of Mexico and Saskatchewan.

VIII.—On the 17th and 18th a ridge of high pressure extended from Oregon southeastward, and on the 20th it stretched from Oregon to Texas, after which it rapidly contracted and disappeared; the highest pressure was always on the Pacific coast.

IX.—This is a small area of high pressure that is shown on the map of the 20th, a. m., and does not appear afterwards. It is interesting only as representing the slight barometric elevation in the midst of several depressions which have received their numbers as low areas, and it may have contributed to bring about the condition favorable to the formation of the tornadoes that occurred on the 21st.

X.—This area also appeared on the 20th, a. m., as a slight elevation in the Gulf States, moved slowly eastward, and disappeared off the Atlantic coast on the 22d.

XI.—On the 21st an area of high pressure moved northeastward throughout British Columbia, while low pressure No. XIII was undoubtedly still further north. In general, the high areas that pursue this northeast course toward Oregon and British Columbia attend low areas to the northward. This high pressure soon rapidly degenerated into a narrow ridge parallel to the Rocky Mountain plateau, but on passing eastward it became an extensive area of high pressure that was central in South Dakota on the 24th, a. m., while the hurricane, low No. XII, was passing northward between Habana and Matanzas. This high pressure moved eastward to the north of the hurricane center until the 27th, p. m., when it was central in Nova Scotia; after this the center seems to have had a westward movement, owing to an inflow of more air from Labrador, and it disappeared on the 30th, p. m., in Newfoundland.

XII.—This area of high pressure represented the westward

movement of the Atlantic high pressure, and. to a certain extent, may have been the result of the circulation of air around the West Indian hurricane. Pressure was high on the 23d, a. m., in South Carolina and on the 23d, p. m., off the South Carolina coast.

XIII.—On the 25th and 26th pressure rose on the California coast, while low pressures prevailed in Dakota and Florida; by the 27th, p. m., pressure had risen in Oregon; it was highest on the 28th, a. m., in northern California, after which this high pressure disappeared.

XIV.—On the 28th, a. m., pressure was rising rapidly in Alberta, Saskatchewan, Assiniboia, and Manitoba, while low pressures existed on the coast of British Columbia and in the lower Missouri Valley. This high pressure stretched rapidly southward from Manitoba to Mexico, and on the 30th, a. m., was central in Kansas, with killing frosts throughout that and neighboring States.

LOW AREAS.

It is believed that all depressions marked as "Low" on the Daily Weather Map have been included in the following list:

I.—This number is given to the area of low pressure stretching from the Gulf of California northward. Four epochs of lowest pressure at Yuma occurred during September, namely, on the 6th, 12th, 19th, and 27th. On the 12th Yuma was at the southern end of the trough of low pressure which extended far north of Saskatchewan and was central in Manitoba. On the other dates Yuma was at the center or north of the center of lowest pressure. On the 19th to 22d the low pressure extended westward over the Pacific, and apparently accompanied a storm center moving northeastward (*see* low area No. XIV). The regularity of the interval between the passage of successive troughs eastward over the Rocky Mountain region shows that we have here to do with a series of waves in the upper atmosphere and a corresponding series of surges in the lower atmosphere, as well as with the disturbances caused by moisture and heat at the earth's surface.

II.—This was central on the morning of the 1st in Manitoba, and was a continuation, or a branch, of low area No. XVII of the August series. After the 1st, p. m., it disappeared north of Minnesota, while the principal depression apparently continued central in Alberta.

III.—This was central on the 1st, a. m., near southern Newfoundland, and was a continuation of low No. XVI of the August series.

IV.—This was central near Anticosti on the 2d, a. m., and was apparently an eastern extension of the large area that included No. II in its western portion and No. III in its eastern portion.

V, V*a*, and V*b*.—This was central on the 2d, a. m., in northern Alberta, and was evidently the southwestern portion of the general low pressure to the northward. After moving southeastward during the 3d, and sending a branch (V*a*) into Saskatchewan and another branch (V*b*) southeastward on the 4th into Manitoba, it finally filled up on its northern side, and the main depression moved southeastward along the Rocky Mountain region, disappearing in northern Illinois on the 8th.

In connection with low area No. V, the following signals were ordered: Washington, 8th, 10.55 a. m., information signals from Delaware Breakwater to Woods Holl (except New Haven and New London).

In connection with low area No. V*a*, the following signals were ordered: Washington, 3d, 10.30 a. m., information signals on lakes Superior, Michigan, Huron, and Pepin.

VI.—This was central north of Ottawa on the 4th, p. m., being apparently a southern branch from a large area lying to the northward. On the 5th, a. m., it was near the mouth of the St. Lawrence, and on the 5th, p. m., over Newfoundland.

VII.—This was apparently a small whirl moving northward into the eastern portion of the Gulf of Mexico during the 5th and 6th. Its track, as given on Chart I, is quite uncertain.

In connection with this low area, the following signals were ordered: Washington, 5th, 10.00 p. m., information signal at Pensacola. 6th, 9.00 a. m., southwest storm, Pensacola; 3.00 p. m., northwest storm, Pensacola.

VIII.—This appeared on the 7th, p. m., in Athabasca, and moved southeastward along the northern limit of the Weather Map, reaching the Ottawa River on the 10th, a. m., and disappearing southward of Newfoundland on the 11th, a. m.

In connection with low area No VIII, the following signals were ordered: Washington, 10th, 9.35 a. m., information signal at Buffalo; 9.48 a. m., southwest storm signals, New York and Sandy Hook to Portland; 10 a. m., northwest storm signals at all stations on lakes Superior, Michigan, and Huron (except Duluth and Ashland sections), and information signals in Duluth and Ashland sections; 10.35 a. m., northwest storm signals at Detroit, Toledo, Sandusky, and Cleveland.

IX.—This appeared in British Columbia on the 10th, p. m., and, after descending southward along the Rocky Mountain region and forming two subordinate low areas, IX*a* and IX*b*, it disappeared north of the Lake region on the 16th.

In connection with this low area, the following signals were ordered: Washington, 12th, 10.10 a. m., information signals on Lake Pepin, at Duluth and Ashland section; 8.30 p. m., southeast storm signals on lakes Pepin. Superior, Michigan, and Huron; 10.10 p. m., information signals at Detroit, Toledo, Sandusky, and Cleveland. 13th, 9.55 a. m., storm signals changed to information signals on lakes Superior, Michigan, Huron, and Pepin. 15th, 10 a. m., information signals on lakes Huron and Michigan and at Marquette and Sault Ste. Marie; 4 p. m., information signals changed to northeast storm at Marquette, Sault Ste. Marie, and on Lake Huron. 16th, 11.30 a. m., information signals at Duluth, Ashland section, Houghton section, Green Bay and section, Mackinaw section, and Alpena; southeast storm signals at Marquette and Sault Ste. Marie.

X.—This depression appeared on the 16th in the northern portion of British Columbia. It moved slowly southeastward into Assiniboia, and disappeared on the 19th between Manitoba and James Bay.

XI.—This was an indefinite depression in the Gulf of Mexico during the 16th and 17th, but accompanied by heavy rain and high wind on the coast, indicating the presence of a small cyclone in the Gulf. It moved northeastward through the Atlantic States on the 18th, 19th, and 20th, and disappeared on the 21st at the mouth of the St. Lawrence River.

In connection with this low area the following signals were ordered: Washington, 17th, 10.30 p. m., information signals at Port Eads, New Orleans to Punta Gorda; 10.50 p. m., information signal at Key West. 18th, 9.47 p. m., information signals from Jacksonville to Atlantic City, except Baltimore. 19th, 9.40 a. m., southwest storm signals at Norfolk and section, West Point, and Newport News; 9.40 a. m., northeast storm signals from Delaware Breakwater and Baltimore to Woods Holl section; 10.30 a. m., northeast storm signals at Port Huron and Saginaw Bay section; 10.45 p. m., northeast storm signals at Boston and section, Portland, and Eastport.

XII.—This was a tropical hurricane which passed westward between Dominica and Guadeloupe. What little is known of its earlier history is given in the chapter on "North Atlantic Storms." The center passed over the southern portion of San Domingo and Haiti and along the southern coast of Cuba, finally crossing that island and emerging between Habana and Matanzas on the morning of the 24th; it passed northward between Key West and Tortugas, a little east of Titusville, on the 26th, a. m., between Savannah and Charles-

ton on the 27th, a. m., near Morehead City, N. C., on the 28th, a. m., and had, by the 30th, p. m., reached a position approximately N. 39°, W. 70°. A full account of this storm is given in "Special Storm Bulletin No. 2 of 1894," showing that its path was fully announced and predicted by the official dispatches and warnings of the Weather Bureau.

In connection with this hurricane the following signals were ordered: Washington, 23d, 11.20 a. m., northeast storm signal at Key West; 11.20 a. m., information signals from Punta Gorda to Galveston; 9.40 p. m., northeast storm signals at Cedar Keys, Punta Gorda, Jupiter, and Tampa; 9.40 p. m., information signals from Jacksonville to Charleston. 24th, 9.48 a. m., northeast storm signals at Port Eads, Mobile, Pensacola, Jacksonville and section; 12.15 p. m., information signals from Wilmington to Newport News; 12.15 p. m., northeast storm signals at New Orleans, Savannah and section, and Charleston; 10.30 p. m., information signals at Galveston; 10.50 p. m., northeast storm signals at Wilmington and section. 25th, 7.30 a. m., northeast storm signals changed to southwest at Key West; 9.55 a. m., northeast storm signals at Morehead City, Washington, Norfolk and section, Newport News, and West Point; 2.00 p. m., northeast storm signals at Mobile, Pensacola, New Orleans, and Port Eads; 3.48 p. m., information signals from Baltimore to New York; 9.45 p. m., southeast storm signal at Jupiter; 9.45 p. m., southwest storm signal at Punta Gorda. 26th, 9.10 a. m., northeast storm signals from Delaware Breakwater to Boston; 9.10 a. m., northeast storm signal at Baltimore; 2.40 p. m., northeast storm signals changed to northwest at Jacksonville and section; 2.40 p. m., northeast storm signals changed to northwest from Savannah to Charleston. 27th, 9.30 a. m., southeast storm signals at Morehead City, Washington, Norfolk and section, Newport News, and West Point; 9.43 a. m., northeast storm signals changed to southeast at Wilmington and section. 28th, 8.00 a. m., northwest storm signal changed to information at Charleston. 29th, 10.10 p. m., northeast storm signals at Atlantic City, Sandy Hook, New York, and Narragansett section.

The reports from Tampa show that the hurricane center passed northward some distance to the east of Tampa, where the maximum wind during any five minutes was 43 miles per hour, with one minute puffs of 60 miles. The lowest barometer was 29.48, at 8 p. m., of the 25th. The observer, Mr. Considine, states that this hurricane center passed nearer to that station than any other hurricane since 1846. The rainfall during fifty-four hours, ending at 8 a. m. of the 26th, was 13.78 inches.

At Titusville the rainfall during forty-eight hours, while under the influence of the passing storm, was 7.72 inches; the range of temperature during the 25th and 26th was but 1.5°. A wind of from 48 to 60 miles an hour from the northeast began about 8 a. m., of the 25th, and continued until midnight.

At Jacksonville the northeast gale, beginning at midnight, reached a maximum of 48 miles at 10.40 a. m. of the 26th; the total rainfall during the storm was 11.11 inches.

On the 30th, while the storm center was south of Rhode Island and east of New Jersey, the northeast gale that prevailed all day at Narragansett Pier, with high tide and very heavy surf, was considered to be the most severe of the season at that place as well as along the entire coast of Long Island to the west and of New England and Nova Scotia to the east. At St. Johns, N. F., a heavy gale was also prevailing at that time, but this belonged to the storm *M* of the Atlantic series and not to this present hurricane center, although the newspaper paragraphs frequently confuse these storms.

Mr. Boyer, Weather Bureau Observer at Key West, reports as follows:

September 22, thunderstorm from 5.20 to 5.50 p. m. The storm moved from northeast toward southwest. The squally character of the rain during the thunderstorm was the first symptom indicative of cyclonic influence. This squally tendency, peculiar to tropical storms, can not be mistaken by those who have experienced and noted them. 23d, day opened partly cloudy, cirrus clouds moving from the south; wind increasing from fresh to brisk and becoming squally. Toward midday the cirrus clouds thickened, producing solar halo; northeast storm signal hoisted at 12.30. During the afternoon lower clouds thickened, wind increased to high northeast squalls of wind and rain from 4.45 to 5.45 p. m.; at 10 p. m., wind northeast 44 miles, with rain squalls; barometer slowly falling. 24th, barometer falling more rapidly, with high northeast wind, until 1.45 a. m.; at 7.50 a. m., heavy squall of 48 miles per hour.

From this time on the hourly observations were as follows: 8 a. m., 29.80, NE., 42 miles, light rain; 9 a. m., 29.80, NE., 43, light rain squall; 10 a. m., 29.78, NE., 48, light rain squalls, scud from east-northeast; 11 a. m., 29.77, NE., 42, light rain squalls; noon, 29.74, NE., 40, heavy rain squalls; 1 p. m., 29.70, NE., 40, heavy rain; 2 p. m., 29.66, E., 37, light rain squalls; 3 p. m., 29.60, NE., 52, heavy rain; the violent wind began at 2.27; 4 p. m., 29.56, NE., 44, heavy rain; 5 p. m., 29.48, NE., 58, heavy rain; 6 p. m., 29.46, NE., 56, violent squalls of 72 miles; 7 p. m., 29.43, NE., 42, squalls of 60 miles; 8 p. m., 29.38, NE., 33, light rain; 9 p. m., 29.35, E., 33, less violent squalls; 10 p. m., 29.32, SE., 13, light; 11 p. m., 29.31, ESE., 20, light rain; midnight, 29.27, E., 20, light rain; thunder, with sharp lightning, began at midnight.

25th, 1 a. m., 29.25, E., 18, scud from ESE., thunder ceased at 12.40; 2 a. m., 29.20, SE., 9, light rain; 3 a. m., 29.18, SE., 10; 4 a. m., 29.16, SSE., 16; 5 a. m., 29.13, S., 24; 6 a. m., 29.10, SSW, 30, wind suddenly increased to 38 miles at 5.40; 7 a. m., 29.13, SW., 24, NE. signals changed to SW., cirro-stratus moving from WNW.; 8 a. m., 29.13, SW., 28. The rainfall was 5.85 inches from noon of the 24th to this present 8 a. m.; 9 a. m., 29.11, SW., 50, squalls of great violence, impossible to go on the roof, barometer pumping violently; 10 a. m., 29.19, SW., 40, violent squalls; between 8.30 and 9.30 a. m., there were violent and sudden fluctuations of about 0.1 of an inch in the barometer; 11 a. m., 29.20, SW., 70; violent gusts and heavy rains; the maximum velocity of the hurricane occurred at 11.20 a. m., with a terrific squall recording 87 miles in five minutes and, an extreme of 104 miles per hour during one minute; noon, 29.28, SW., 42, heavy rain; 1 p. m., 29.35, SW., 60, violent gusts and heavy rains; 2 p. m., 29.38, WSW., 44; 3 p. m., 29.41, W., 43; 5 p. m., 29.48, W., 38; 6.30 p. m., 29.51, W., 36; 8 p. m., 29.56, W. 30.

On the morning of the 26th the winds and clouds were moving from the west, with occasional wind and rain squalls. During the day a permanent bank of stratus and cumulo-stratus remained visible in the northwest; the rainfall from 8 a. m. of the 25th to 8 a. m. of the 26th was 1.91 inch. The gulf water did not back up with the southwest winds and flood the city as was the case in the hurricane of October 19, 1876. The barograph curve of the 25th shows three minima similar to those at Mauritius, April 29, 1892, but not so well defined as those. The three readings were: 6 a. m., 29.10; 9 a. m., 29.11; 11.30 a. m., 29.15. A study of the wind velocities will show that each of these readings was recorded immediately after a strong squall when the wind was on the lull. At 5 a. m. of the 25th the wind was S., 24; at 5.40 it had increased to 38, after which it began to moderate; the first minimum reading was registered at 6 a. m., and by 7.15 a. m. the wind had subsided to 18; at 7.45 p. m. the wind changed to southwest, increasing in force. The second minimum, 29.11, occurred at 9 a. m., immediately after a violent squall of 65 miles, at 8.50 a. m.; by 9.05 a. m. the velocity had fallen to 43. The third minimum, 29.15, occurred at 11.30 a. m., immediately after the terrific gust of 104 miles at 11.20 a. m. The very marked lull in the wind force from 9 p. m. of the 24th to 5 a. m. of the 25th indicates the very close proximity of the vortex. The hypothesis that special depressions of very limited extent were developed at or near the vortex seems the most tenable one, as heavy squalls or gusts are thus produced to fill up the depression. The leaves of trees and plants were much affected by the hurricane winds, particularly on the southwest side, as if scorched by fire.

Mr. E. R. Demain, Weather Bureau Observer, Jacksonville, Fla., October 12, 1894, writes as follows:

Captain Moorhouse, of the three-masted British schooner *Coniston*, reports as follows: I left Tortugas (Keys) on the morning of the 22d, that was Saturday. Sunday morning I saw the barometer was going down. The first heavy squall struck me at 3 o'clock, 23d, from about east-northeast. It kept blowing worse and the wind continued east-northeast till 4 o'clock Monday afternoon (24th). I noticed about 4 o'clock that the wind suddenly went to east by south. Though I was on the east of the center, I steered west and so ran till 11 o'clock, when I struck the calm in the center of the storm. The storm was moving very slowly, about 10 miles an hour. At 2 a. m. Tuesday (25th) the wind was very heavy from west-southwest and continued so till 5 p. m. Tuesday, when the weather was clearing.

I must have been a little west of Key West. I judge I ran 50 miles back before I struck the calm; must have been somewhere west of Tortugas. Judge the storm was traveling north-northwest when it passed me. Never saw such rain; it was something terrible and continued till after the storm broke up; had very heavy rain squalls till after 12 at night. On the commencement of the storm we had a little lightning, but no thunder. I never heard any thunder in the five hurricanes which I have experienced. It was

the heaviest storm I was ever in. I think that the wind blew fully 120 miles per hour.

Mr. Fred. W. Ramsden, of the British Consulate, Santiago de Cuba, October 15, 1894, writes as follows:

From telegrams I received from the Windward Islands and from San Domingo and Haiti, and from my own observations here, I have reason to believe that the track of the center was as follows: It passed between the islands of Dominica and Guadeloupe about 1 p. m. on the 20th of September; was 150 miles southwest of San Juan de Puerto at 7 a. m. of the 21st; passed almost over and just to the south of the city of San Domingo about 2 a. m. on the 22d; then a little to the north of Port au Prince about midday of the 22d, and south of St. Nicolas Mole the same afternoon, reaching the city of Santiago de Cuba at half past 12 a. m. of the 23d. (Here we had very strong north and north-northwest winds up to that hour, when it became almost calm, veering to the northeast and east, commencing suddenly again to blow violently at 3 a. m. from the southeast.) After passing here its course was just south of Cienfuegos, having begun to slow down for curving at midday of the 23d before reaching that meridian, and, I believe, it then passed up between Habana and Matanzas on the 24th, and thence to Key West, etc.

Mr. Rafael Junquera, Weather Bureau Observer at Santiago de Cuba, writes as follows, November 14, 1894:

September 20, about 1 p. m., the center passed between Dominica and Guadeloupe; at 7 a. m. of the 21st it was southwest of Puerto Rico; on the 22d, at 2 a. m., it entered the mainland at San Domingo to the south of the capital, ransacking this country and Haiti; it passed south of St. Nicolas Mole on the afternoon of the 22d, and the center of the storm area reached Santiago by 12.30 a. m. of the 23d. The storm track became very irregular as soon as it reached the mainland of San Domingo and Haiti, and I believe that the mountains of San Domingo and Haiti changed its course to the south.

The cloud movements in the vicinity of this station showed perfectly well that the storm track would travel to the south of this station. I consider that the northern border of the storm vortex passed very near to this city and that the section of the vortical calms passed to the north of Cape Cruz.

At Merida, Yucatan, Signor Felix Gomez made the following record, which is translated by Mr. Symons from the monthly bulletin for September, 1894, published by the Central Magnetic-Meteorologic Observatory of Mexico, to which institution Mr. Gomez sent a storm warning by telegraph:

On Saturday, September 22, at 4.40 p. m., we observed in the northeast many scattered clouds of a cumulo-nimbus type coming rapidly at a low altitude. This was the first indication which led me to surmise that a storm existed in the southeast, and I immediately began to watch the wind and the barometer; the wind was east-northeast, and the mean pressure for the day was 29.93 inches.

On Sunday, 23d, the sky was occasionally overcast; there were light northerly squalls; the vane pointed steadily to east-northeast until the afternoon, when it went to north-northeast, and the pressure fell to 29.92 inches.

On Monday, 24th, the sky continued overcast at intervals; there were light squalls; the vane kept north-northeast until the afternoon, when it went to north-northwest, and the pressure fell to 29.87 inches.

On Tuesday, 25th, the wind was variable between northwest and west-northwest, and the sky clear; the barometer fell to 29.84 inches, and in the afternoon the wind backed to west-southwest.

On Wednesday, 26th, the wind went round to southwest and the barometer rose to 29.86 inches, and a drizzle gave 0.05 inch of rain.

Though the indications of the barometer were very slight, the aspect of the sky and the backing of the wind showed that Merida was on the western skirt of a cyclone, therefore we reported to the observatory on the 23d and subsequent days that a depression existed to our east.

XIII.—This began on the 20th, p. m., in British Columbia and disappeared on the 24th in Labrador. In the first part of its course it moved rapidly southward into Iowa, and on the 22d it described a retrograde movement on Lake Superior.

In connection with this low area the following signals were ordered: Washington, 22d, 10.02 a. m., information signals on Lake Michigan and in Houghton section; 10.02 a. m., southwest storm signals at Marquette, Sault Ste. Marie, and Lake Huron; 10.20 a. m., information signal at Buffalo; 11.30 a. m., southwest storm signals on Lake Erie; 3.00 p. m., changed from information signals to southwest storm on Lake Michigan; 10.20 p. m., southeast storm signals at Rochester and Oswego section; 10.14 p. m., northwest storm signals at Duluth and Ashland section. 23d, 9.50 a. m., southeast changed to southwest storm signals at Rochester and Oswego section; 10.00 a. m., northwest storm signals at Lakes Huron, Michigan, and Superior (except Duluth and Ashland section); 1 p. m., changed to northwest storm signals on Lakes Erie and Ontario (except Toledo); 10.25 p. m., northwest storm at Newport section, Narragansett section, Woods Holl section, Boston and section, Portland, and Eastport.

XIV.—This appeared on the 24th, a. m., as a depression approaching British Columbia from the southwest. The barometric change on the coast of California and Oregon indicated that an extensive storm had been moving during the 22d and 23d northeastward over the Pacific. The central lowest pressure moved eastward during the 25th and 26th from British Columbia to Saskatchewan and then stretched southeastward, forming, during the 28th and 29th, a long crescent-shaped trough from Colorado to South Dakota and from Kansas to Lake Superior; this was followed on the 29th, p. m., by a well-marked center over Lake Superior, which disappeared on the 30th in Ontario.

In connection with this low area the following signals were ordered: Washington, 25th, 5.31 p. m., southeast storm signals on lakes Pepin, Superior, and Michigan. 26th, 9.00 a. m., southeast storm signals on Lake Huron; 9.40 a. m., southeast storm signals at Detroit, Toledo, Sandusky, Cleveland, Erie, and Buffalo. 28th, 10.20 a. m., information signals on lakes Superior, Michigan, and Pepin. 29th, 10.10 p. m., northwest storm signals on Lake Superior (except Sault Ste. Marie), lakes Michigan and Pepin; 10.10 p. m., southeast storm signals at Sault Ste. Marie and Lake Huron.

XV.—This, like its predecessor, apparently began as a storm area on the Pacific Ocean, moving eastward during the 28th toward Washington, in which Territory it was central on the 30th, a. m., and by the 30th, p. m., it had moved northward into British Columbia. The rest of its path belongs to the month of October.

NORTH ATLANTIC METEOROLOGY.

[Pressure in inches and millimeters; wind-force by Beaufort scale.]

NORMAL CONDITIONS.

The normal barometric pressure for September over the North Atlantic Ocean, as deduced from international simultaneous meteorological observations taken at Greenwich noon and not reduced to standard gravity, is highest, 30.18 (766), in a small region between latitudes N. 30° and N. 40° and longitudes W. 25° to W. 40°; it is lowest, 29.70 (754), over an extensive region covering Iceland, Greenland, Spitzbergen, and extending from N. 60°, W. 25° northeastward across the Arctic region to the coast of Siberia at N. 72°, E. 140°. Over the Pacific Ocean high pressure prevails from Oregon southwestward and low pressure from the Gulf of California southward. The lowest pressure in the Pacific is 29.70 in the eastern portion of Bering Sea, and this region is almost continuous with the low pressure in the Atlantic and Arctic oceans.

As compared with August, the normal pressures for September are 0.05 higher over the greater part of North America, and are 0.20 higher over central Asia and southeast Russia, but are lower over the Atlantic, Arctic, and Pacific oceans. The general path of storm centers in September is toward the west-northwest in that portion of the Atlantic and Pacific oceans which is between N. 10° and N. 30°, but toward the east-northeast or east-southeast for latitudes north of N. 35°,

passing, therefore, from the coast of China over Japan, Kamchatka, Bering Sea, British Columbia, Oregon, Stikine, Manitoba, the Lake region, the Gulf of St. Lawrence, the Atlantic Ocean between Iceland and Ireland, central Norway and Sweden, and disappearing in eastern Russia. The normal rate of progress south of latitude N. 35° is from 10 to 16 miles per hour toward the west, but north of that latitude from 16 to 26 miles toward the east.

NORTH ATLANTIC STORMS.

The following paragraphs give some account of the areas of low pressure and strong winds on the North Atlantic Ocean during September, 1894. Daily charts are compiled at the Weather Bureau showing the atmospheric conditions over the United States, Europe, and the Atlantic Ocean, as nearly as practicable at Greenwich noon, and afford a basis for approximating the locations and paths of the more important areas of high and low pressure.

The individual low pressures are enumerated as follows:

A. This was apparently the continuation of the U. S. series No. IV. It was central on the 1st, a. m., north of Manitoba, and on the 2d, a. m., in Labrador; 3d, at N. 50°, W. 50°; 4th, N. 54°, W. 48°; 5th, N. 57°, W. 42°; 6th, N. 53°, W. 45°; 7th, N. 55°, W. 35°. In connection with this storm high winds or very low pressures were reported from the steamships *Buenos Ayrean*, *Beresford*, *Ethiopia*, *Ocean*, *Aco*, *Hesper*.

B. This hurricane was apparently formed in the southern portion of the low area attending the preceding storm *A*, and must have been central on the 7th, a. m., at about N. 35°, W. 45°; on the 8th, N. 43°, W. 42°; 9th, N. 49°, W. 40°; 10th, N. 60°, W. 20°, and rapidly expanded over the Atlantic to the northward; on the 11th pressure was very low at about N. 70°, E. 10°, and also in Labrador and Alberta, so that an extensive area of low pressure must have prevailed throughout the entire intermediate region. On the 12th area *B* was central in Lapland, after which it moved southeastward, and on the 14th disappeared in eastern Russia. During the 8th and 9th, while this area was turning from its north to its northeast course, low pressures and hurricane winds near its center were reported by the steamships *Rotterdam*, *Spree*, *Tris*, *Othello* (which reported pressure 27.99), *Queen's More*, *Peninsula*, *Ocean*, *Charlois*, *Brazilian*, *Manheim*, *Burgermeister*, *Taurie*, and *Christine*.

C. This was a continuation of U. S. low No. VII, which was central on the 9th, a. m., in Manitoba; 10th, a. m., in Ontario; 11th, a. m., on the coast of Labrador; 12th, a. m., at N. 55°, W. 42°; 13th, N. 56°, W. 38°. On the 14th and 15th this was far north of our reports, but on the 15th, noon, when area *B* had apparently disappeared in the Ural Mountains, a new depression, which is apparently *C*, had taken its place in Lapland, and which, following the same course, disappeared on the 17th in eastern Russia.

D. The map of the 14th shows areas of high pressure southwest of Ireland and south of Nova Scotia, with a depression in the middle Atlantic between these two areas, and central at about N. 45°, W. 35°. This rapidly developed into a well-marked storm center, which was central on the 15th at N. 51°, W. 31°; 16th, N. 50°, W. 38°; 17th, N. 52°, W. 32°, after which date we find no further trace of a severe storm. Apparently this cyclonic whirl was broken up in this region. During its prevalence high winds and low pressures were experienced by the following vessels: *Grecian*, *Ohio*, *Sachem*, *Diamant*, and *Virginia* on the 16th, and by the *Kanawha* on the 17th.

E. On the 17th the northwesterly winds attending the preceding depression stretched far to the south of the Azores, and on the 18th the cyclonic whirl was central at about N. 44°, W. 23°. This continued nearly stationary until the 19th, and on the 20th was central at N. 45°, W. 20°, at which time the cyclonic system embraced a region of 20° square, but without violent winds so far as heard from; 21st, noon, the center was moving slowly northeastward and on the 22d had stretched into a trough reaching from Denmark to the Bay of Biscay, after which date it expanded into a large area of depression with several special centers in eastern and western Europe.

F. The small depression (No. XI) that was central in the south Atlantic States on the 19th and in New York on the 20th passed northeastward over Labrador on the 21st and disappeared south of Greenland on the 22d.

G. This is the same as low area No. XII, or the West Indian hurricane of the U. S. series. The first reports of its existence thus far received are those of the 20th, when it passed westward between Guadeloupe and Dominica at N. 15.5°, W. 62°. The pressure had diminished steadily in these islands from 30.03 on the 15th to 29.93 on the 19th, and doubtless the whirlwind was at that time forming far to the east and advancing slowly westward. From the reports that have been received relating to the 20th and subsequent dates the following extracts are taken:

Capt. A. Delanoe, of the steamship *Ville de Tanger*, left Pointe a Pitre for St. Pierre, Martinique, at 9 a. m., 20th; barometer between 758 and 759, weather squally, wind varying from east to northeast, with a little rain. At 12.30 p. m., when four nautical miles northeast of the northern part of San Domingo, the barometer rapidly fell to 753, terrific wind, very high sea, continuous rain. At Port de France, 4 a. m., 22d, the sky was covered with heavy clouds, squalls of little violence, the sea calm, with slight rain.

From Prof. T. Scherer, Port au Prince, Haiti:

During the 21st the barometer fell from 760.1 at 7 a. m. to 758.2 at 9 p. m., with slight rain and feeble southeast wind. On the 22d, at 8 a. m., the wind changed rapidly from east-southeast to west-northwest, and at 9 a. m. was varying between southwest and north-northwest. The lowest barometer occurred between 10 and 11 a. m., and was 755.3, after allowing for the regular diurnal variation; at this time the wind was west-southwest, and the rain ceased; at noon the wind had returned to east-southeast and gradually increased from 4 meters to its normal value at 9 p. m. of 9 meters per second. The cyclone passed over San Domingo during the night, between 11 p. m. of the 21st and 5 a. m. of the 22d; the lowest barometer was 738. More than 500 houses were destroyed and 2 churches. Nearly all the roofs were carried away. The palaces and the principal edifices were unroofed. A part of the fortress fell down. The crops were very generally injured throughout the northern part of the island. At Puerto Plata the tempest raged from 1 to 3 a. m., September 22. At Cape Haitien it was thought that the cyclone was passing by at noon; the barometer had fallen 15 mm. since the preceding day; the sea had overthrown the St. Nicolas Mole. By reason of the general disturbance of the telegraphic work many important points as to the destruction by the storm remain unsettled. The barometric minimum at Port au Prince seemed to occur between 10 and 11 a. m., apparently following the general movement. At the Island of St. Thomas the lowest barometric readings were: September 20, 9.40 p. m., 29.83. 21st, 1.50 a. m., 29.82; 3.55 a. m., 29.82; 5.40 a. m., 29.84; 6.30 a. m., 29.86. Strong puffs of wind and rain all night, mostly from southeast to southwest; a little lightning early in the night. At Martinique, September 20, 2 p. m., barometer 29.7 and wind varying from west to northwest. At Guadeloupe, 2 p. m., barometer 29.89, wind varying from east to northeast. At St. Croix and St. Kitts strong gale from the south and east during the night of the 20th–21st. At Antigua during the 20th a moderate southeast gale. In Cuba the center of the hurricane passed west of Cienfuegos about midday of the 24th, and passed between Habana and Matanzas that same afternoon.

The path of this cyclonic whirl lay to the southward of, but in close proximity to, the highlands and mountains of San Domingo and Cuba, and in accordance with the analogy of vortex whirls moving in the neighborhood of large obstacles, these highlands may have had a slight influence in causing the general track of the storm center to have deviated slightly toward them, but this influence must have been almost inappreciable as the mass of air in motion in the regions above the highlands was too large to have been much affected by them. On the other hand, the local phenomena of wind and pressure experienced at any point near the earth's surface must have been largely influenced by the presence of these highlands, and this doubtless accounts for the comparatively slight diminutions of pressure observed at our West Indian stations in comparison with those noted in

previous hurricanes and, in fact, with those observed in the present hurricane as soon as it left Cuba. The northward path from Cuba into Florida and along the south Atlantic coast presents another illustration of the ease with which the hurricane develops on the ocean or the immediate coast and the difficulty with which it penetrates the interior of the continent. The present whirl appears to have grown in size very slowly and also to have moved quite slowly during its whole path not only in the West Indies, but also after reaching the south Atlantic States. On the 30th, noon, it was southeast of New Jersey, and the rest of its career belongs to October.

H. This was a continuation of low No. XIII that was central in the upper Lake region on the 22d and passed over Labrador on the 24th; it disappeared on the 25th south of Greenland.

I and *K.* A depression (*I*) appeared on the 23d central about N. 38°, W. 22°; it moved northward, reaching N. 47°, W. 23°, on the 25th, while a similar small depression (*K*) stretched southward from this region and another, above described as *E*, moved to the eastward over the British Channel. The whirl, *K*, soon broke up, and *I* disappeared on the 27th without much further movement.

L. This appeared on the 27th central at N. 50°, W. 40°; it is not likely to have been a continuation of area *H*, although it was very nearly in the same place, but is rather an evidence of the extremely unstable condition of the atmosphere at this time and of the ease with which the great flow of upper currents from the tropics initiate short-lived whirls and barometric depressions on the edges of regions of high pressure. By the 28th area *L* had divided into two portions, respectively central at N. 48°, W. 52°, and N. 38°, W. 58°, but the whole of this portion of the atmosphere was in that state of motion known as turbulent flow in the hydraulics of rivers, and the alternations were very rapid from horizontal to ascending or descending motion and from high to low pressures and from rectilinear to whirling motions. By the 28th three or four whirls had formed between the hurricane on our south Atlantic coast and the high area over the North Sea. On the 30th the center was at about N. 50°, W. 27°, and hurricane winds were reported by the *Lackawanna* and *Fonar*.

M. This area was central on the 29th over Newfoundland at N. 49°, W. 55°. By the 30th it had moved southeast as a severe hurricane to N. 48°, W. 44°. Reports of low pressures and high winds in connection with this storm were received from the *Iona* and *Hecla* on the 30th. The map of the latter date presents six low areas between the Ural and the Rocky mountains and between N. 35° and N. 55°, and it must be reserved for the first few days of October to show how the upper current, overflowing from tropical latitudes, was drawn off in different directions, or tapped, as it were, to supply first one and then another of these whirls until finally some subsided while others continued developing as severe storms.

OBSERVATIONS IN THE CARIBBEAN SEA.

The following summaries of observations made at British Colonial Hospitals may throw some light on the weather in the adjoining portions of the Caribbean Sea:

Balize, July, 1894. The barometric range reduced to sea level, maximum, 30.154, on the 4th; minimum, 29.965, on the 16th. The temperature of the air, maximum, 89.9, on the 12th; minimum, 73.9, on the 4th. The relative humidity of the atmosphere varied between 99 and 83 per cent. The prevailing wind for the month was southeast. Rain fell on 13 days, the maximum being 3.18 on the 4th; total rainfall, 7.67, which is about 91 per cent of the normal for July.

Punta Gorda, July, 1894. The temperature of the air, maximum, 94, on 22d; minimum, 69.0, on the 9th. The prevailing wind was northeast. Rainfall on 15 days, the maximum being 5.50 on the 28th; total rainfall, 19.52.

Balize, August, 1894. The barometric range reduced to sea level, maximum, 30.127, on the 10th; minimum, 29.925, on the 26th. The temperature of the air, maximum, 90.9, on the 23d; minimum, 74.1, on the 21st. The relative humidity of the atmosphere varied between 95 and 88 per cent. The prevailing wind was southeast. Rainfall on 11 days, the maximum being 1.31 on the 21st; total rainfall, 3.24, which is about 40 per cent of the normal for August.

Punta Gorda, August, 1894. The temperature of the air, maximum, 87.5, on the 30th; minimum, 70.0, on the 31st. Rainfall on every day of the month, the maximum being 4.28 on the 8th; total rainfall, 26.89. The prevailing wind was northeast.

Balize, September, 1894. The barometric range reduced to sea level, maximum, 30.073, on the 13th; minimum, 29.811, on the 28th. The temperature of the air, maximum, 94, on the 26th; minimum, 70.0, on the 5th. The relative humidity of the atmosphere varied between 98 and 79 per cent. The prevailing wind was southeast. Rainfall on 10 days, the maximum being 2.67 on the 26th; total rainfall, 5.16, which is about 50 per cent of the normal for September.

Punta Gorda, September, 1894. The temperature of the air, maximum, 91, on the 20th; minimum, 71.0, on the 10th, 16th, and 29th. Rainfall on 18 days, the maximum being 3.21 on the 11th. The prevailing wind was northeast.

OCEAN ICE.

The positions of icebergs and field ice reported for September, 1894, are shown on Chart I by crosses.

The following table shows the southern and eastern limits of the regions within which icebergs or field ice were reported for this month during the last twelve years:

Southern limit.			Eastern limit.		
Month.	Lat. N.	Long. W.	Month.	Lat. N.	Long. W.
	° ′	° ′		° ′	° ′
September, 1883	43 25	47 10	September, 1883	49 01	44 33
September, 1884	46 00	53 21	September, 1884	47 39	49 14
September, 1885	45 40	48 22	September, 1885	48 40	46 27
September, 1886	46 40	53 00	September, 1886	48 00	48 40
September, 1887	45 37	40 50	September, 1887	45 37	40 50
September, 1888	Off Cape	Race.	September, 1888	53 00	52 08
September, 1889	46 21	48 22	September, 1889	48 59	46 48
September, 1890*	45 30	48 00	September, 1890	50 30	46 22
September, 1891	Straits of	Belle Isle	September, 1891	53 18	51 20
September, 1892	Straits of	Belle Isle	September, 1892	52 04	54 55
September, 1893	44 27	48 29	September, 1893	46 50	45 20
September, 1894	44 00	46 45	September, 1894	48 34	46 18
Mean	45 52	48 15	Mean	49 21	47 44

*On the 4th a large lump of ice 100 feet long and 6 feet above water was reported in N. 36° 49′, W. 42° 18′; this is the lowest latitude in which ice was ever reported in the North Atlantic Ocean.

A reference to the table will show that in the last twelve years there have been but two Septembers (1891 and 1892) for which ice has not been reported south of the fiftieth parallel, and that the eastern limit of ice for the current month is about 1½° east of the average eastern limit for September.

OCEAN FOG.

The limits of fog belts west of the fortieth meridian, as reported by shipmasters, are shown on Chart I by dotted shading. Near the Banks of Newfoundland fog was reported on 15 dates; between the fifty-fifth and sixty-fifth meridians on 11 dates; and west of the sixty-fifth meridian on 11 dates. Compared with the corresponding month of the last six years, the dates of occurrence of fog near the Grand Banks numbered 1 less than the average; between the fifty-fifth and sixty-fifth meridians, 5 more than the average; and west of the sixty-fifth meridian, 3 more than the average.

TEMPERATURE OF THE AIR.

[*In degrees Fahrenheit.*]

The distribution of the monthly mean temperature of the air over the United States and Canada is shown by the dotted isotherms on Chart II; the lines are drawn over the high irregular surface of the Rocky Mountain plateau, although the temperatures have not been reduced to sea level, and the isotherms, therefore, relate to the average surface of the

country occupied by our observers; such isotherms are controlled largely by the local topography, and should be drawn and studied in connection with a contour map.

NORMAL TEMPERATURE.

In Table II, for voluntary observers, the mean temperature is given for each station, but in Table I, for the regular stations of the Weather Bureau, both the mean temperatures and the departures from the normal are given for the current month. In the latter table the stations are grouped by geographical districts, for each of which is given the average temperature and departure from the normal; the normal for any district or station may be found by adding the departures to the current average when the latter is below the normal and by subtracting when it is above.

MONTHLY MEAN TEMPERATURE.

For the regular stations of the Weather Bureau the monthly mean temperature is the simple mean of all the daily maxima and minima; for voluntary stations a variety of methods of computation is necessarily allowed, as shown by the notes appended to Table II.

During September, 1894, the highest mean temperatures at regular Weather Bureau stations were: Yuma, 83.3; Key West, 81.4; Corpus Christi, 81.0; Port Eads, 80.4; Jupiter, 80.2; New Orleans, 79.9; Tampa and San Antonio, 79.4; Titusville, 78.8; Jacksonville, 78.6; Charleston, 77.6; Savannah, 77.2.

DEPARTURES FROM NORMAL TEMPERATURE FOR SEPTEMBER, 1894.

As compared with the normal for September the mean temperatures for the current month were decidedly in excess in a belt extending from Minnesota southeast to Pennsylvania. The largest excesses were: Marquette, 6.3; Port Huron, 5.1; Rochester, 4.8; Parkersburg and Duluth, 4.4; Huron, 4.3. The principal region of deficit covered the Rocky Mountain plateau and the Pacific slope. The greatest deficits were: Walla Walla, 3.1; Salt Lake City, 2.9; Winnemucca and Helena, 2.6; Laramie, 3.6.

Considered by districts, the mean temperatures for the current month show the following departures from normal temperatures:

Positive departures: New England, 2.4; middle Atlantic, 3.2; south Atlantic, 1.9; east Gulf, 1.3; west Gulf, 0.9; Ohio Valley and Tennessee, 3.5; lower Lakes, 4.0; upper Lakes, 3.8; North Dakota (extreme northwest), 1.6; upper Mississippi Valley, 2.9; Missouri Valley, 2.4; middle slope, 0.9; southern slope (Abilene), 1.7; middle Pacific, 1.7.

Negative departures: Key West, 0.6; northern slope, 0.9; southern plateau, 0.4; middle plateau, 2.2; northern plateau, 2.0; north Pacific, 0.3; southern Pacific, 1.3.

For certain voluntary stations of rather long periods of observation the normal and extreme mean temperatures and the departures are shown in detail in Table X *a*, which is now placed among the meteorological tables instead of being inserted in the text as heretofore.

YEARS OF HIGHEST MEAN TEMPERATURE FOR SEPTEMBER.

The mean temperature for September, 1894, was the highest on record at regular Weather Bureau stations, as shown in the following table, which also gives the highest previous record:

Stations.	September, 1894.		Highest previous.	
	Mean temperature.	Departure from normal.	Temperature.	Year.
Raleigh, N. C	73.0	+2.8	72.0	1891
Parkersburg, W. Va	70.2	+4.4	69.0	1891

YEARS OF LOWEST MEAN TEMPERATURE FOR SEPTEMBER.

The mean temperature for September, 1894, was the lowest on record at regular Weather Bureau stations, as shown in the following table:

Stations.	September, 1894.		Lowest previous.	
	Mean temperature.	Departure from normal.	Temperature.	Year.
Lander, Wyo	52.9	−3.9	53.6	1889

MAXIMUM TEMPERATURE.

The maximum temperatures of the month at regular stations of the Weather Bureau are given in Table I, from which it appears that the highest maxima were: Yuma, 109; Oklahoma, 104; Fresno, 102; Red Bluff, St. Vincent, and Tucson, 100.

The lowest maxima were: Tatoosh Island, 65; Neah Bay, 69; Eureka, 71; Port Crescent, 72; Pysht, 73; Block Island, 76; Point Reyes Light, 76.

YEARS OF HIGHEST MAXIMUM TEMPERATURE FOR SEPTEMBER.

The maximum temperatures for September were the highest on record at regular Weather Bureau stations, as shown in the following table:

Stations.	September, 1894.		Highest previous.	
	Maximum.	Excess above previous record.	Temperature.	Year.
Olympia, Wash	88	+3	85	1889
St. Vincent, Minn	100	+6	94	1889
Moorhead, Minn	98	+4	94	1889
Duluth, Minn	94	+4	90	*
Northfield, Vt	85	0	85	1891
Narragansett Pier, R. I	79	+2	77	*
Vineyard Haven, Mass	84	+2	82	*
St. Paul, Minn	94	0	94	1893
La Crosse, Wis	94	+1	93	1891
Dubuque, Iowa	95	+1	94	*
Green Bay, Wis	93	+1	92	1891
Milwaukee, Wis	94	0	94	*
Grand Haven, Mich	88	0	88	1889
Port Huron, Mich	92	0	92	1881
Indianapolis, Ind	95	+1	94	*
Lexington, Ky	92	+1	91	*
Parkersburg, W. Va	96	+4	92	1891
Cape Hatteras, N. C	96	+2	94	*
Raleigh, N. C	93	+1	92	*
Columbia, S. C	96	0	96	1887
Charleston, S. C	95	+1	94	*

* Frequently.

MINIMUM TEMPERATURE.

The minimum temperatures of the month at regular stations of the Weather Bureau are given in Table I, from which it appears that the lowest minima were:

Idaho Falls and St. Vincent, 23; Williston, 24; Northfield, 25; Bismarck, Havre, and Winnemucca, 26; Valentine and Lander, 27; Moorhead, 28.

Among the highest minima were: Key West, 71; Jupiter and Port Eads, 70; Galveston, 68; Corpus Christi, 67; New Orleans, 66.

YEARS OF LOWEST MINIMUM TEMPERATURE FOR SEPTEMBER.

The minimum temperatures for September were the lowest on record at regular Weather Bureau stations, as shown in the following table:

Stations.	September, 1894.		Lowest previous.	
	Minimum.	Deficit below previous record.	Temperature.	Year.
Carson City, Nev	28	0	28	1889
Yuma, Tex	50	0	50	1882
Northfield, Vt	25	0	25	1888
Erie, Pa	36	−1	37	1888

THE DAILY AND MONTHLY RANGES OF TEMPERATURE.

The greatest daily range of temperature is given for each

of the regular Weather Bureau stations in Table I, which also gives data from which may be computed the extreme monthly ranges for each station.

Greatest daily ranges.—Large values: Bismarck and Rapid City, 54; Pueblo, 50; Lander, 48; Dubuque and North Platte, 47; Huron, 46; Williston, 45. Small values: Hatteras, 12; Tatoosh Island and Kittyhawk, 16; Jupiter and Key West, 17; Port Eads, Galveston, and Titusville, 18; New Orleans, 19; Corpus Christi, 20.

Extreme monthly ranges.—Large values: St. Vincent, 77; Moorhead, 70; Bismarck, Pierre, and Valentine, 68; Huron, 64; Dubuque, 62; La Crosse, 61; Alpena, 60. Small values: Key West and Hatteras, 18; Jupiter, Galveston, and Tatoosh Island, 20; Port Eads, 22; Corpus Christi, 23; New Orleans, 24; Southport, 25; Block Island and Titusville, 26.

ACCUMULATED TEMPERATURES.

From January 1 to the end of the current month the average temperature for each geographical district was above or below the normal by an amount that is given in the last column of the following table. The accumulated monthly departures from normal temperatures, as given in the second column, may be used for comparison with the departures of current conditions of vegetation from the normal conditions.

Districts.	Accumulated departures.		Districts.	Accumulated departures.	
	Total.	Average.		Total.	Average.
	°	°		°	°
New England	+10.5	+1.2	Key West	−4.6	−0.5
Middle Atlantic	+15.2	+1.7	West Gulf	−0.2	0.0
South Atlantic	+7.0	+0.8	Southern plateau	−16.7	−1.9
East Gulf	+0.4	0.0	Middle plateau	−10.5	−1.2
Ohio Valley and Tennessee	+14.8	+1.6	Northern plateau	−4.0	−0.4
Lower Lake	+22.7	+2.5	Northern Pacific	−7.6	−0.8
Upper Lake	+27.4	+3.0	Middle Pacific	−11.5	−1.3
North Dakota (Ex. NW.)	+24.1	+2.7	Southern Pacific	−21.6	−2.4
Upper Mississippi	+24.7	+2.7			
Missouri Valley	+20.2	+2.2			
Northern slope	+4.1	+0.5			
Middle slope	+4.7	+0.5			
Southern slope (Abilene)	+1.3	+0.1			

DIURNAL PERIODICITY.

The regular diurnal period in temperature is shown by the hourly means given in Table V for all stations having self-registers.

LIMITS OF FREEZING TEMPERATURE.

The region within which the air has had a freezing temperature at some time during the month is bounded by the minimum isotherm of 32°. During September minima of 32°, or less, were reported over the region north of a line passing from central Minnesota to western Kansas, thence northward to eastern Montana, thence southwest to eastern California, and northward to Alberta.

PERIODS OF HIGH TEMPERATURE.

The map of maximum temperatures during September shows that the principal periods were as follows:

(A) On the 1st the maximum temperatures of the month occurred in Louisiana, Tennessee, Wyoming, Minnesota, Wisconsin, Iowa, and northern Illinois, and on the 2d they occurred in Michigan, Indiana, and central Kentucky. By the 3d this region of high temperature had moved eastward over Ohio and Lake Erie into Pennsylvania. It disappeared on the 4th and 5th in northern New England.

(B) On the 6th and 7th the maximum temperatures of the month occurred in portions of Kansas and southward throughout central and eastern Texas. This area moved eastward and prevailed over Arkansas and Missouri on the 8th, southern Illinois on the 9th, and the entire Atlantic coast, from Florida to Connecticut, on the 10th. The maximum temperatures on this latter date were from 94 to 96 throughout this region and occurred during the prevalence of a region of southwest winds and clear sky blowing toward the low pressure that was then central in New Brunswick, while an area of high pressure, with colder northwest winds and light rain, was advancing eastward over the Appalachians.

(C) On the 10th the highest temperatures of the month occurred in Washington and Oregon; this area moved eastward over Montana on the 11th and Dakota on the 12th.

(D) On the 21st, 22d, and 23d the maximum temperatures of the month generally occurred in Arizona and California, and this period of high temperature extended eastward, passing over Colorado and South Dakota on the 25th, 26th, and 27th.

PERIODS OF LOW TEMPERATURE.

The minimum temperatures occurred principally in the following groups:

(A) On the 8th in central Iowa, on the 11th in central Missouri, and on the 11th and 12th in New Mexico and western Texas.

(B) On the 24th and 25th over the Lake region, Wisconsin, Illinois, Indiana, and Ohio. On the 26th this region had extended southward into eastern Texas, Louisiana, and throughout the entire series of States from the eastern Gulf to New England. This was in connection with the northeast winds that prevailed throughout this entire region and were flowing from the high pressures over the St. Lawrence Valley southward into the low pressure attending the hurricane that was then central in Florida.

AREAS OF 20° RISE IN TWENTY-FOUR HOURS.

The daily weather charts show by heavy dotted lines the regions over which the temperature has risen 20° in the preceding twenty-four hours. The following list enumerates all of these areas and gives the dimensions of the principal axes in miles.

Such rapid rises occur less frequently in summer than in winter; they are largely due to the rapid descent and rapid warming by compression of layers of air that are, by reason of their dryness, rather denser than the surrounding air; they are also frequently due to the rapid descent of air flowing toward the regions of low pressure near the center of a cyclone.

(A) On the 18th, at 8 a. m., a ridge 100 by 400 extending from the eastern border of North Dakota northward into Manitoba. This was a region of warm southerly winds blowing toward low No. X, which was at that time central in northern Alberta.

(B) On the 25th, at 8 p. m., 400 by 200 covering South Dakota and the eastern portion of North Dakota. This was a region of warm southerly winds south and east of and close to the center of low pressure No. XIV, which was then in North Dakota. These warm winds were an outflow from the same area of high pressure that was at that time bringing the coldest temperatures of the month to the Atlantic and Gulf States.

AREAS OF 20° FALL IN TWENTY-FOUR HOURS.

A fall of temperature of 20°, or more, in twenty-four hours is not called a cold wave by the Weather Bureau unless the temperature falls below 40°, and is, therefore, likely to cause a frost injurious to vegetation, but all falls of 20° are indicated on the Daily Weather Map by inclosing the areas within which they occur by heavy dotted lines, and the following list enumerates those regions for the month of September (the dimensions of the principal axes of the areas are stated in miles):

(A) On the 4th, a. m., in North Dakota, 200 by 100. This fall of temperature occurred in an area of light westerly winds, with clear sky, immediately following the low pressure of the preceding day.

(B) On the 10th, p. m., two small areas, about 100 by 200,

in central Texas and in Missouri and Illinois. Both of these were at this time in the rear of an area of cloud and rain that had just moved southeastward in the presence of an advancing area of high pressure. 11th, a. m., a similar small area, 150 by 100, and similarly located, occurred in Ohio.

(C) 11th, p. m., 300 to 200 on the coasts of Oregon and Washington. This fall of temperature was largely due to a return to normal conditions after the period of unusually high temperature experienced on the 10th, and which latter was caused by the flow of warm southwest winds over Oregon and Washington toward the low pressure in British Columbia. On the 12th, at 8 p. m., a large area, 1,000 by 300, extended from Alberta to Nevada in the rear of low No. IX, which was then central in Montana. This extensive increase in size, during twenty-four hours, shows what a large mass of air was at that time flowing in the upper regions from the high pressure over the Pacific toward the low pressure that had just crossed the Rocky Mountains. 13th, a. m.. 500 by 300, in Idaho, Nevada, and Utah; 13th, p. m., 600 by 200, in eastern Wyoming, Montana, and Manitoba; the magnitude of this cold area is remarkable for this season of the year, and its eastward advance apparently caused the trough of low pressure that prevailed on the 13th to divide into two distinct areas of low pressure, of which the southern one soon filled up. 14th, a. m., 200 by 100, in eastern Wyoming; 14th, p. m., 100 by 100, Manitoba. 15th, a. m., 100 by 100, in eastern Texas and Nebraska. These last three small areas represented the breaking up of the original large region of low temperature.

(D) 16th, a. m., 200 by 200, Lake Huron.

(E) 22d, p. m., 300 by 100, eastern Wyoming and northern Colorado. This area represented the front of the advancing high pressure then central in British Columbia. 23d, a. m., 100 by 200, Colorado, Wyoming, and South Dakota; the area of 20° fall had moved a little southeastward while the ridge of high pressure had extended from British Columbia southeast to Missouri. 23d, p. m., 600 by 200, Colorado, Kansas, Missouri, and Indian Territory.

(F) 27th, p. m., 600 by 200, North Dakota, South Dakota, Wyoming, Colorado, and Nebraska. This area was immediately north of the low pressure which was then central in northern Kansas. 29th, p. m., 600 by 300, Minnesota, Iowa, and Kansas; in some portions of this region the temperature fell about 40° in twenty-four hours; the colder area of the day before had moved 500 miles southeastward into a region where warm southerly winds had been prevailing. 30th, a. m., 900 by 200, from Wisconsin to Indian Territory. 30th, p. m., 300 by 200, Lake Superior.

FROSTS.

The principal frosts that have occurred during the month were as follows: 3d, Eastport, Me.; 4th, Cross, S. Dak.; 8th, Bowdle, S. Dak.; 11th, Northville, S. Dak., and Crandon, Wis.; 13th, Edmanton, Cal., Reno, and Lewers Ranch, Nev.; 14th, Single Tree, Utah; 16th, East Tawas, Mich.; 17th, numerous places in South Dakota and Wyoming; 18th, Iowa and Wisconsin; 23d, Pullman, Wash., and several stations in South Dakota and Nebraska; 24th, Illinois and Nebraska; 25th, Michigan and Ohio; 26th, New York, Pennsylvania, and New Hampshire. All the frosts just enumerated were sufficient to kill tender vegetation.

Tables showing the average date of last killing frosts will be found in the MONTHLY WEATHER REVIEW for February, 1888, and tables of the first killing frost in the REVIEW for July, 1888. From these it appears that the frosts of the current month occurred at about the usual date in Dakota, Iowa, Wisconsin, New York, Pennsylvania, and New Hampshire, but rather early in Michigan, Nebraska, Illinois, and Maine.

The following table shows the dates of the occurrence of the first light and heavy frosts and the first snow of the season at the respective stations:

Dates of first light and heavy frosts and snow, September, 1894.

State and station.	First frost.		Snow.
	Light.	Heavy.	
Alabama.			
Newburg	26	.....	.....
Arizona.			
Calabasas	28	.....	.....
Eagle Pass	29	.....	.....
Keams Canyon	9	28	.....
Lochiel	29	.....	.....
Show Low	.....	9	.....
Arkansas.			
Clarksville	25	.....	.....
Corning	26	.....	.....
Keesees Ferry	26	.....	.....
California.			
Adin	.....	28	.....
Edmanton	.....	13	.....
Greenville	.....	13	.....
Independence	13	.....	.....
La Porte	1	13	29
Lick Observatory	30	.....	.....
Nevada City	.....	12	.....
Oleta	13	.....	.....
Placerville	10	.....	.....
Pleasanton	12	.....	.....
San Jose	13	.....	.....
Summerdale	.....	.....	30
Susanville	.....	12	.....
Yreka	14	28	.....
Colorado.			
Akron	20	30	.....
Alma	.....	.....	7
Box Elder	9	15	.....
Canyon	24	.....	.....
Collbran	.....	27	.....
Delta	.....	11	.....
Divide Exper'l Station	.....	14	.....
Downing	.....	11	.....
Dumont	9	.....	.....
Fort Collins	.....	14	.....
Garnett	.....	14	.....
Glen Eyrie	.....	24	.....
Gold Hill	.....	.....	28
Hugo (near)	14	.....	.....
Husted	11	15	.....
Julesburg	15	.....	.....
La Jara	8	15	.....
Lavender	.....	8	.....
Le Roy	.....	24	.....
Leslie	.....	23	.....
Loveland	9	.....	.....
Moraine	.....	.....	28
Pagoda (near)	12	14	.....
Parachute	.....	15	.....
Pueblo	15	.....	.....
Rangely	.....	13	.....
Red Cliff	.....	.....	28
Rocky Ford	24	.....	.....
Ruby	.....	.....	7
Saguache	5	10	.....
San Juan	1	6	8
San Luis	11	15	.....
Seibert	11	.....	.....
Spring Gulch	.....	.....	28
Stamford	.....	11	.....
Steamboat Springs	.....	.....	13
Sunnyside	.....	.....	8
Surface Creek	.....	11	.....
Thon	14	29	.....
T. S. Ranch	14	15	.....
Twin Lakes	.....	.....	7
Connecticut.			
Canton	13	.....	.....
Greenfield Hill	25	.....	.....
Hartford	26	.....	.....
Middletown	26	.....	.....
New Hartford	26	.....	.....
Southington	26	.....	.....
South Manchester	26	.....	.....
Storrs	12	26	.....
Thompson	26	.....	.....
West Simsbury	12	26	.....
Georgia.			
Adairsville	21	.....	.....
Idaho.			
Atlanta	.....	.....	12
Fort Sherman	.....	22	.....
Grangeville	.....	29	12
Idaho Falls	.....	16	.....
Lake	.....	.....	13
Murray	.....	27	.....
Paris	.....	.....	13
Salubria	.....	.....	11
Illinois.			
Albion	25	.....	.....
Aurora	25	.....	.....
Bloomington	23	.....	.....
Bushnell	24	.....	.....
Carlinville	26	.....	.....
Chemung	24	25	.....
Chicago	24	.....	.....

State and station.	First frost.		Snow.
	Light.	Heavy.	
Illinois—Cont'd.			
Decatur	25	.....	.....
Golconda	26	.....	.....
Herrins Prairie	25	.....	.....
Louisville	25	.....	.....
Martinsville	25	.....	.....
Mattoon	24	.....	.....
Monmouth	11	.....	.....
Mount Pulaski	25	.....	.....
Olney a.	25	.....	.....
Oswego	24	25	.....
Palestine	25	.....	.....
Paris	25	30	.....
Peoria	25	.....	.....
Philo	24	25	.....
Riley	25	.....	.....
Rushville	11	.....	.....
Springfield (near)	25	.....	.....
Sycamore	24	.....	.....
Tuscola	25	.....	.....
Warsaw	11	.....	.....
Winnebago	24	25	.....
Zion	10	.....	.....
Indiana.			
Ashboro	25	.....	.....
Bedford	25	.....	.....
Butlerville	.....	25	.....
Columbus	25	.....	.....
Connorsville	25	.....	.....
Crawfordsville	.....	24	.....
Degonia Springs	26	.....	.....
Franklin	.....	25	.....
Huntingburg	26	.....	.....
Indianapolis	25	.....	.....
Jasper	.....	24	.....
Lafayette	25	.....	.....
Madison	25	.....	.....
Marengo	25	.....	.....
Marion	11	25	.....
Markle	24	25	.....
Mauzy	11	.....	.....
New Albany	25	.....	.....
Plymouth	24	.....	.....
Princeton	25	.....	.....
Rockville	11	.....	.....
Scottsburg	25	.....	.....
Terre Haute	26	.....	.....
Vevay	25	.....	.....
Worthington	25	.....	.....
Iowa.			
Afton	18	.....	.....
Albia	11	.....	.....
Algona	.....	11	.....
Alta	11	24	.....
Amana	11	.....	.....
Ames b.	.....	18	.....
Ames c.	11	17	.....
Atlantic	.....	11	.....
Audubon	.....	18	.....
Belle Plaine	11	.....	.....
Cedar Rapids	11	.....	.....
Charles City	11	.....	.....
Clarinda	11	.....	.....
Clinton	24	.....	.....
College Springs	30	.....	.....
Corning	11	.....	.....
Cresco	.....	18	.....
Davenport	24	.....	.....
Decorah	10	18	.....
Delaware	11	24	.....
Des Moines	18	.....	.....
Elkader	11	18	.....
Emmetsburg	11	.....	.....
Fort Madison	24	.....	.....
Galva	.....	17	.....
Glenwood	11	.....	.....
Grand Meadow	18	.....	.....
Grundy Center	11	18	.....
Hampton	11	24	.....
Hopkinton	11	.....	.....
Humboldt	11	.....	.....
Independence	11	.....	.....
Indianola	23	.....	.....
Iowa City	11	24	.....
Iowa Falls	11	18	.....
Jefferson	11	24	.....
Keokuk	24	.....	.....
Larrabee	.....	11	.....
Maxon	17	.....	.....
Mechanicsville	11	.....	.....
Monticello	11	18	.....
Newton	18	.....	.....
Ogden	11	.....	.....
Osage	11	18	.....
Osceola	11	.....	.....
Oskaloosa	11	.....	.....
Ottumwa	11	.....	.....
Ovid	11	18	.....
Panama	11	18	.....

Dates of first light and heavy frosts and snow—Continued.

State and station.	First frost. Light.	First frost. Heavy.	Snow.
Iowa—Cont'd.			
Bichland	11		
Rockwell City		11	
Rock Rapids		10	
Sac City	11		
Seymour	18		
Sibley		11	
Sioux City	11	30	
Spirit Lake	11		
Sutherland	10		
Toledo	18		
Villisca	11		
Vinton	11	18	
Washington	11		
Webster City	11	18	
Williams	11	18	
Winterset	11		
Wilton	24		
Kansas.			
Abilene	30		
Achilles		14	
Allison	11		
Atchison	24		
Blaine	10	29	
Burlington	11		
Coffeyville	11		
Concordia	11		
Cunningham	30		
Dodge City	30		
Downs	11	30	
Elk City	30		
Emporia	30		
Englewood	20		
Eureka Ranch	15	30	
Fort Riley		30	
Garden City	11		
Gibson	30		
Grenola	30		
Halstead		30	
Hays City		11	
Hutchinson	11		
Ionia	11	30	
Jaqua	23		
Johnson	30		
Kiowa	30		
Lakin		30	
Lebo	30		
Leoti	10		
Macksville	30		
Manhattan	11	30	
Medicine Lodge	30		
Minneapolis	11	30	
Morland		11	
Mount Hope	15		
Ness City	11		
New England Ranch	14		
Olathe	17		
Pleasant Dale	15	30	
Quinter	29		
Rome	30		
Ulysses	11		
Wakefield	15		
Wamego	11		
Washington	30		
Westmoreland	3	10	
Wichita	30		
Winfield	30		
Kentucky.			
Bowling Green	26		
Caddo	11		
Canton	26		
Carrollton	25		
Eddyville	25		
Greendale	20		
Greensburg	26		
Harrodsburg	25		
Henderson	25		
Louisville (near)	25		
Marrowbone	26		
Pellville	26		
Sandy Hook	25		
Shelbyville	25		
Maine.			
Belfast		26	
Cornish		26	
Easton	3	8	
Eastport	27		
Farmington		12	
Gardiner	27		
Houlton		3	
Lewiston	12	26	
Mayfield	12		
North Bridgton	26	27	
Orono	3	26	
Maryland.			
Bachmans Valley	25		
Boettcherville	26		
Cumberland	26		
Oakland	24	26	
Princess Anne	8	19	
Sunnyside	25		
Taneytown	25		
Massachusetts.			
Adams		26	
Amherst Exp. Station		26	
Andover	26		
Bedford	13	26	
Blue Hill (summit)	26		
East Templeton		26	
Groton		26	
Leeds		26	
Leominster	26		
Mansfield	26		
Monson		26	
Pittsfield		26	
Randolph		11	
Salisbury	27		
South Dennis	14		
Westboro	13		
Winchendon		29	
Winthrop		26	
Worcester	26		
Michigan.			
Adrian		25	
Allegan	25		
Alma		25	
Alpena		12	
Ann Arbor		25	
Arbela		18	
Ball Mountain	25		
Berlin	25		
Boon	12	19	
Bronson		25	
Detroit	12	25	
Grand Haven	25		
Grape	25		
Hanover	24	26	
Harbor Springs		18	
Hart	19		
Howell		25	
Jeddo	25		
Kalamazoo	20		
Lansing		25	
Lathrop		12	
Lewiston		24	
Madison	25	26	
Marquette		18	
Mayville	25		
Mottville	25		
Ovid	25		
Parkville	25		
Port Huron	25		
Rawsonville		25	
Rockland	10		
St. Ignace	18	25	
Sand Beach	24		
Sault Ste. Marie	12	25	
Thornville		25	
Ypsilanti		25	
Minnesota.			
Airlie	10	11	
Alexandria		17	30
Beardsley	4	11	
Bird Island	10	16	
Blooming Prairie	10	24	
Caledonia	24		
Camden	11	24	
Campbell		11	
Carver	10	18	
Clear Lake	11	17	
Clearwater		17	
Dawson		11	
Duluth	18		
Farmington	4	11	
Fergus Falls		11	
Grand Meadow		17	
Hutchinson	11		
Jadis		11	
Leech Lake		17	
Long Prairie	15	25	29
Luverne		11	
Maple Plain		11	
Marfield		11	29
Mazeppa		18	
Milan	11	17	29
Minneapolis	11		
Minnesota City	11	18	
Montevideo	11	23	
Moorhead		11	
Morris	10	17	
New Ulm	10	29	
Park Rapids	10	11	
Pine River	10	18	
Red Lake	11	17	
Rolling Green		24	
Rush City		11	
St. Charles		18	
St. Cloud	10	24	
St. Olaf	10		
St. Paul	11		
St. Peter		11	
St. Vincent		11	
Sandy Lake Dam	11	17	
Sauk Center	15	17	
Sunrise City		11	

Dates of first light and heavy frosts and snow—Continued.

State and station.	First frost. Light.	First frost. Heavy.	Snow.
Minnesota—Cont'd.			
Two Harbors		24	
Wabasha	11	18	
Willmar		10	
Winona	11		
Worthington	9	24	
Missouri.			
Bethany	18		
Carrollton	11		
Downing	11		
Eight Mile		30	
Elmira	18		
Fairport	18		
Gallatin	11		
Gayoso	26		
Grove Dale	25		
Harrisonville	18		
Kansas City	18		
Kidder	18		
Liberty	30		
Maryville	11		
Mexico	16		
Miami	30		
Nevada	30		
New Hartford	23		
Oak Ridge	26		
Oregon	18		
Phillipsburg	11		
Pickering	11	18	
Platte River	11		
Potosi	25		
Princeton	11		
Sarcoxie	18		
Springfield	30		
Stellada	11		
Sublett	11		
Tindall	16		
Warrensburg	11		
Montana.			
Anaconda			27
Billings	2	28	
Boulder			13
Bozeman	4		
Butte	13	29	12
Columbia Falls	6	16	
Fort Logan			13
Glendive	17	23	
Great Falls	14	15	23
Havre	10	14	13
Helena		24	22
Hogan			22
Kipp	3	7	12
Marysville	3	13	3
Miles City	29		13
Mingusville	9	16	
Pony			13
Red Lodge			22
Virginia City			12
White Sulphur Springs		23	13
Nebraska.			
Agee	10	29	
Ansley	11		
Ashland	11		
Bassett	9	14	
Beatrice		29	
Beaver City	30		
Bratton	30		
Chadron		10	
Columbus	11	30	
Chester	11	30	
Cornlea		10	
Cortland	30		
Creighton	11		
Culbertson		29	
David City	23	30	
Ericson		11	
Ewing	11	30	
Fontanelle	11	30	
Franklin	30		
Geneva	10	30	
Genoa	11	30	
Gering	16	23	
Glenwood	10		
Gothenburg	11	30	
Hartington	11		
Harvard	30		
Hay Springs	10	24	28
Hebron	11	30	
Imperial	12		
Indianola	29		
Kennedy	10	30	
Lexington		14	
Lodge Pole	15	24	
Lynch	11	30	
Madrid		15	
Marquette	30		
Minden	30		
Mullen	29		
Norfolk	11		
North Loup	10		
North Platte	10	24	
Oakdale	11		
O'Neill	11	30	
Nebraska—Cont'd.			
Palmer	30		
Ravenna		11	
Santee Agency	9	10	
Seward		30	
Springview	10	29	
Stanton	11	30	
Sutton	15	30	
Table Rock	30		
Tecumseh	11		
Tekamah	11	30	
Turlington	11		
Valentine	15	23	
Weeping Water	11		
Wilcox	11	30	
York		29	
Nevada.			
Austin			30
Belleville			27
Belmont			27
Carson City	8	13	30
Cortez			30
Ely			27
Empire Ranch			27
Gold Hill			29
Lewers Ranch		13	30
Marlette Lake			27
Osceola			30
Palmetto			15
Ruby Valley			27
Stofiel			30
Tybo			30
Virginia City			30
Winnemucca	7	13	
New Hampshire.			
Alstead		26	
Antrim		25	
Berlin Mills		26	
Bethlehem		26	
Brookline		26	
Concord		26	
East Canterbury		26	
Grafton		12	
Hanover		26	
Lancaster		26	
Littleton		26	
Plymouth		26	
Sanbornton		26	
Stratford		26	
New Jersey.			
Belvidere	26		
Charlotteburg	25	26	
Dover		26	
Franklin Furnace	26		
Junction	26		
Lambertville	25		
Millville	26		
New Brunswick	26		
Newton		26	
Somerville	12		
Toms River	25		
West Summit	26		
New Mexico.			
Albuquerque	15		
Bloomfield	14	15	
Ciruella		10	
East Las Vegas		11	
Halls Peak	8	11	
Monero	8	11	
Olio		29	
San Marcial	15		
Santa Fe	11		
Socorro	14		
Springer	11	12	
Sulphur Hot Springs		11	
Taos		14	
New York.			
Addison		26	
Albany	26		
Alfred Center		26	
Angelica		26	
Arcade		26	
Baldwinsville	25		
Bedford	26		
Binghamton		26	
Brookfield	12		
Buffalo		26	
Cooperstown	26		
Factoryville	25	26	
Fleming	26		
Friendship		26	
Glens Falls		26	
Gloversville	13	26	
Hamilton		25	
Hess Road Station		26	
Humphrey	12	26	
Hyndsville		26	
Ithaca		26	
Lebanon Springs	12	26	
Le Roy		26	
Lockport	26		
Lowville		26	
Malone		26	

Dates of first light and heavy frosts and snow—Continued.

State and station.	First frost.		Snow.
	Light.	Heavy.	
New York—Cont'd.			
Mount Morris	.....	26	.....
New Lisbon	12	26	.....
North Hammond	26	.....	.....
Number Four	12	26	26
Ogdensburg	.....	26	.....
Oswego	26	.....	.....
Perry City	.....	26	.....
Rochester	.....	26	.....
Saranac Lake	.....	25	.....
South Canisteo	.....	26	.....
South Kortright	12	26	.....
Stillwater	26	.....	.....
Turin	.....	26	.....
Varysburg	.....	26	.....
Wappingers Falls	26	.....	.....
Watertown	26	.....	.....
Wedgwood	.....	26	.....
North Carolina.			
Bailey	21	.....	.....
Blowing Rock	21	.....	.....
North Dakota.			
Berlin	11	.....	.....
Bismarck	10	17	.....
Bottineau	4	.....	.....
Churchs Ferry	.....	.....	29
Ellendale	.....	11	.....
Forman	.....	10	28
Fort Berthold	.....	16	.....
Fort Yates	.....	16	.....
Gallatin	.....	10	.....
Jamestown	10	17	.....
Kelso	4	.....	.....
Lakota	.....	15	29
Larimore	17	24	.....
McKinney	.....	17	.....
Napoleon	.....	17	.....
New Salem	.....	16	.....
Portal	.....	10	.....
Power	11	16	.....
Steele	.....	9	29
University	11	17	.....
Wahpeton	.....	7	.....
White Earth	10	30	23
Wild Rice	.....	11	.....
Williston	.....	10	.....
Woodbridge	.....	.....	29
Ohio.			
Akron	26	.....	.....
Ashland	25	26	.....
Atwater	28	.....	.....
Auburn	26	.....	.....
Bangorville	24	.....	.....
Batavia	24	.....	.....
Bellefontaine	20	.....	.....
Bement	.....	26	.....
Benton Ridge	.....	25	.....
Bethany	25	.....	.....
Binole	26	.....	.....
Bissels	26	.....	.....
Bladensburg	25	.....	.....
Bloomingburg	25	.....	.....
Bowling Green	25	.....	.....
Bucyrus	24	.....	.....
Caledonia	25	.....	.....
Cambridge	25	.....	.....
Canton	26	.....	.....
Cardington	12	24	.....
Cedarville	26	.....	.....
Cherry Fork	25	.....	.....
Cincinnati	25	.....	.....
Clarksville	25	.....	.....
Coalton	25	.....	.....
Columbus	23	.....	.....
Cynthiana	25	.....	.....
Dayton	25	.....	.....
Defiance	.....	25	.....
Dupont	.....	24	.....
Ellsworth	26	.....	.....
Elyria	.....	26	.....
Findlay	25	.....	.....
Fostoria	25	.....	.....
Frankfort	25	.....	.....
Garrettsville	.....	26	.....
Gratiot	25	.....	.....
Greenfield	23	.....	.....
Green Hill	25	.....	.....
Greenville	25	.....	.....
Guysville	25	.....	.....
Ohio—Cont'd.			
Hackney	26	.....	.....
Hedges	.....	25	.....
Hillhouse	26	.....	.....
Hillsboro	25	.....	.....
Hiram	26	.....	.....
Jacksonboro	24	.....	.....
Kenton	.....	22	.....
Kilbourne	.....	25	.....
Killbuck	25	.....	.....
Levering	.....	26	.....
Logan	25	.....	.....
Lordstown	.....	26	.....
Lowell	25	.....	.....
McArthur	25	26	.....
Milligan	.....	25	.....
Napoleon	25	.....	.....
Nelsonville	24	.....	.....
New Bremen	.....	25	.....
New Comerstown	25	.....	.....
New Holland	11	25	.....
New Paris	.....	25	.....
North Fairfield	.....	25	.....
North Lewisburg	25	.....	.....
Norwalk	26	.....	.....
Ohio State University	25	.....	.....
Pataskala	25	.....	.....
Plattsburg	.....	25	.....
Pomeroy	25	.....	.....
Portsmouth	25	.....	.....
Ridgeville Corners	25	26	.....
Ripley	25	.....	.....
Rittman	25	.....	.....
Rocky Ridge	25	26	.....
Rosewood	25	.....	.....
Sandusky	26	.....	.....
Sharon Center	25	.....	.....
Sidney	24	25	.....
Swanton	.....	25	.....
Sylvania	.....	25	.....
Tiffin	25	.....	.....
Toledo	25	.....	.....
Upper Sandusky	24	.....	.....
Vanceburg	25	.....	.....
Van Wert	25	.....	.....
Vermillion	26	.....	.....
Vickery	25	.....	.....
Walnut	25	.....	.....
Warren	.....	26	.....
Warsaw	25	.....	.....
Wauseon	.....	25	.....
Waverly	25	.....	.....
Waynesville	25	.....	.....
Wellington	.....	26	.....
Westerville	25	.....	.....
Wheeler	26	.....	.....
Wooster	26	.....	.....
Oklahoma.			
Pond Creek	30	.....	.....
Oregon.			
Baker City	14	.....	.....
Crook	.....	13	.....
Heppner	4	.....	.....
Hubbard	13	.....	.....
Joseph	.....	3	12
Mount Hood	.....	3	2
Pendleton	23	.....	.....
The Dalles	23	.....	.....
Vale	4	28	.....
Williams	5	27	.....
Pennsylvania.			
Aqueduct	26	.....	.....
Blooming Grove	25	26	.....
Carlisle	20	.....	.....
Cassandra	.....	25	.....
Coatesville	25	.....	.....
Coopersburg	12	.....	.....
Drifton	.....	26	.....
Dyberry	.....	26	.....
East Mauch Chunk	26	.....	.....
Edinboro	26	.....	.....
Emporium	.....	26	.....
Grampian	12	.....	.....
Greensboro	25	.....	.....
Greenville	20	.....	.....
Harrisburg	26	.....	.....
Hollidaysburg	26	.....	.....
Honesdale	.....	26	.....
Huntingdon	25	.....	.....

Dates of first light and heavy frosts and snow—Continued.

State and station.	First frost.		Snow.
	Light.	Heavy.	
Pennsylvania—Cont'd.			
Kane	26	.....	.....
Lebanon	12	.....	.....
Le Roy	.....	26	.....
Lewisburg	26	.....	.....
Lock Haven	.....	26	.....
Phœnixville	26	.....	.....
Pittsburg	25	.....	.....
Quakertown	26	.....	.....
Saegerstown	.....	26	.....
Salem Corners	.....	26	.....
Selins Grove	.....	26	.....
Shinglehouse	.....	26	.....
Smethport	25	.....	.....
South Eaton	26	.....	.....
State College	26	.....	.....
Uniontown	25	.....	.....
Wellsboro	.....	26	.....
Wilkesbarre	.....	27	.....
York	26	.....	.....
Rhode Island.			
Narragansett Pier	22	.....	.....
South Dakota.			
Alexandria	.....	17	.....
Armour	18	30	.....
Bowdle	10	.....	.....
Brookings	10	11	29
Castlewood	13	17	29
Clark	10	30	.....
Cross	.....	4	28
Faulkton	10	17	.....
Flandreau	10	11	.....
Forestburg	11	17	.....
Fort Meade	.....	24	.....
Fort Sully	.....	30	.....
Frankfort	10	17	.....
Gary	23	.....	29
Greenwood	.....	30	.....
Highmore	9	29	.....
Hotch City	.....	19	.....
Howard	.....	17	.....
Huron	11	17	.....
Kimball	10	28	.....
Northville	.....	11	.....
Oelrichs	9	.....	.....
Parker	10	24	.....
Parkston	14	30	.....
Piedmont	9	10	.....
Pierre	15	30	.....
Plankinton	11	23	.....
Rapid City	.....	30	.....
Rosebud	10	.....	.....
Sioux Falls	.....	11	.....
Webster	.....	11	29
Wessington Springs	.....	30	.....
Tennessee.			
Nunnelly	.....	.....	.....
Texas.			
Hartley	.....	26	.....
Utah.			
Cisco	.....	28	.....
Coalville	.....	.....	13
Grouse Creek	.....	12	13
Heber	.....	14	.....
Lake Station	.....	11	.....
Levan	13	14	.....
Loa	.....	7	.....
Losee	.....	13	.....
Manti	23	.....	.....
Moab	14	15	.....
Mount Pleasant	.....	13	.....
Ogden	.....	.....	13
Parowan	13	14	.....
Salt Lake City	.....	29	.....
Scofield	.....	.....	1
Singletree	.....	14	7
Snowville	.....	13	.....
Thistle	27	30	.....
Vermont.			
Burlington	.....	26	.....
Cornwall	.....	26	.....
Hartland	.....	26	.....
Jacksonville	25	26	.....
Norwich	.....	26	.....
St. Johnsbury	.....	26	.....
Simonsville	12	26	.....
Strafford	.....	26	.....
Wells	.....	26	.....
Woodstock	12	26	.....
Virginia.			
Hot Springs	25	.....	.....
Stephens City	26	.....	.....
Washington.			
Blaine	13	.....	.....
Bridgeport	24	.....	.....
Davenport	27	.....	.....
Dayton	.....	23	.....
Ellensburg	11	22	.....
Everett	19	.....	.....
Hunters	.....	3	12
Moxee Valley	16	27	.....
Pomeroy	23	.....	.....
Port Angeles	13	.....	.....
Port Crescent	21	.....	.....
Pullman	.....	23	.....
Pysht	12	.....	.....
Rosalia	3	22	.....
Silver Creek	23	.....	.....
Snohomish	24	.....	.....
Spokane	23	.....	.....
Union City	23	.....	.....
Waterville	.....	17	.....
Wenatchee Lake	14	23	.....
West Virginia.			
Beverly	25	.....	.....
Bloomery	26	.....	.....
Buckhannon	.....	25	.....
Burlington	26	.....	.....
Central Station	.....	25	.....
Creston	26	.....	.....
Davis	.....	25	.....
Ella	25	.....	.....
Glenville	26	.....	.....
Grafton	25	.....	.....
Leachtown	25	.....	.....
Morgantown	25	.....	.....
New Martinsville	25	.....	.....
Parkersburg	25	.....	.....
Point Pleasant	25	.....	.....
Raleigh	25	.....	.....
Sandyville	25	.....	.....
Spencer	25	.....	.....
Tannery	25	.....	.....
Weston	25	26	.....
Wheeling	25	.....	.....
Wisconsin.			
Amherst	12	25	.....
Antigo	.....	24	.....
Baraboo	.....	25	.....
Barron	.....	11	.....
Belleville	17	25	.....
Beloit	25	.....	.....
Crandon	.....	11	.....
Delevan	24	.....	.....
Depere	18	.....	.....
Fond du Lac	11	25	.....
Green Bay	18	25	.....
Hartford	11	24	.....
Harvey	24	25	.....
Hayward	.....	11	.....
Hillsboro	.....	12	.....
Janesville	23	24	.....
La Crosse	24	.....	.....
Lancaster	24	.....	.....
Manitowoc	25	.....	.....
Menomonie	11	18	.....
Milwaukee	.....	25	.....
New Holstein	25	.....	.....
Oconomowoc	.....	25	.....
Osceola	.....	17	.....
Pepin	10	.....	.....
Reedsburg	.....	25	.....
Royalton	11	25	.....
Sharon	.....	24	.....
Shawano	12	25	.....
Viroqua	.....	24	.....
Waukesha	24	.....	.....
Westfield	12	18	.....
Weston	.....	18	.....
Wh hall	.....	24	.....
Wyoming.			
Big Horn Ranch	.....	4	.....
Cheyenne	10	17	.....
Fort Yellowstone	.....	.....	12
La Barge	.....	.....	12
Lander	.....	4	.....
Laramie	.....	14	.....
Lusk	.....	17	.....
Sheridan	.....	14	.....

PRECIPITATION.

[*In inches and hundredths.*]

The distribution of precipitation for the month of September, 1894, as determined by reports from about 2,000 stations, is exhibited on Chart III. The numerical details are given in Tables I, II, and III; the first of these also gives the average departures from the normal for each district, whereas the average departure for each State is given in Table XII for each State Weather Service.

NORMAL PRECIPITATION FOR SEPTEMBER.

The normal precipitation for September is shown on Chart IX of the Atlas of Bulletin C, entitled "Rainfall and Snow of the United States, Compiled to the End of 1891, with Annual, Seasonal, Monthly, and other Charts," by Mark W. Harrington, Chief of the Weather Bureau, Washington, 1894. From this chart it appears that there is a narrow belt of rainfall exceeding 3 inches on the coast of Washington. The precipitation is less than 3 inches south and east of this region to a belt extending from central Minnesota southward to western Texas. East of this belt the rainfall increases to 5 inches along the coast of the Gulf and south Atlantic States; there is a special increase from 5 inches in northwest Florida to 12 inches at the extreme southern end of the Florida Peninsula.

PRECIPITATION FOR CURRENT MONTH.

The precipitation for the current September was heaviest, 17.29, at Key West and, 17.28, at Tampa, with a slight increase, as reported by voluntary observers, in the interior of the Peninsula. It exceeded 8 inches on the south Atlantic coast, and also in the northern portion of New Jersey. The rainfall averaged 3 and 4 inches on the immediate central and west Gulf coast, and 2 or 3 inches over the Mississippi, Ohio, and lower Missouri valleys, with a maximum of 7 inches in western Missouri and eastern Kansas. On the Pacific coast 1 or 2 inches fell in northern California; 4 to 6 inches on the Washington and Oregon coasts, with a maximum of 13.84 at Neah Bay.

CURRENT DEPARTURES FROM NORMAL PRECIPITATION.

The precipitation for September was generally deficient in the central portion of the Gulf States and Texas, also slightly deficient in New England. There was an excess on the Pacific coast and in the middle and south Atlantic States.

The principal departures from the normal at Weather Bureau stations were as follows:

Excesses.—Tampa, 11.9; Key West, 9.9; Jacksonville, 8.7; Titusville, 7.3; Tatoosh Island, Neah Bay, and Palestine, 6.6; Chicago, 5.4; Jupiter and Charleston, 4.8; Southport, 4.4.

Deficits.—Galveston, 4.4; Corpus Christi, 4.1; New Orleans, 4.0; Shreveport, 3.6; Narragansett Pier, 2.9; San Antonio and Knoxville, 2.7; Abilene and Montgomery, 2.3; Charlotte, 2.2.

Considered by districts, the precipitation for September, 1894, when compared with the normal for the month, furnishes the departures given in Table I, as expressed in inches. By dividing those departures by the normal precipitation for September we obtain the following corresponding percentages (precipitation is in excess when the percentage of the normal exceeds 100):

Above the normal: Middle Atlantic, 120; south Atlantic, 146; Key West, 234; lower Lake, 116; upper Lake, 116; North Dakota (extreme northwest), 112; Missouri Valley, 144; northern slope, 121; middle slope, 200; middle plateau, 177; northern plateau, 120; north Pacific, 163; middle Pacific, 290; southern Pacific, 500.

Below the normal: New England, 74; east Gulf States, 71; west Gulf States, 74; Ohio Valley and Tennessee, 84; upper Mississippi Valley, 94; southern slope (Abilene), 19; southern plateau, 44.

For certain voluntary stations of rather long periods of observation the normal and extreme monthly precipitations and the departures are shown in detail in Table X *b*, which is now placed among the meteorological tables instead of being inserted in the text as heretofore.

ACCUMULATED PRECIPITATION.

The total accumulated monthly departures from normal precipitation from the beginning of the year to the end of the current month are given in the second column of the following table; the third column gives the ratio of the current accumulated precipitation to its normal value:

Districts.	Accumulated departures.	Accumulated precipitation.	Districts.	Accumulated departures.	Accumulated precipitation.
	Inch.	*Per ct.*		*Inch.*	*Per ct.*
New England	−11.00	68	Key West	+ 3.60	112
Middle Atlantic	− 5.40	85	West Gulf	0.00	100
South Atlantic	− 2.30	95	Middle slope	+ 1.30	108
East Gulf	− 4.20	91	Southern slope (Abilene)	+ 1.70	108
Ohio Valley and Tennessee	− 7.40	80	Middle plateau	+ 1.50	114
Lower Lake	− 4.00	85	Northern plateau	+ 2.80	121
Upper Lake	− 1.10	96	North Pacific	+11.70	131
North Dakota (Ex. NW.)	− 0.50	97			
Upper Mississippi	− 9.70	66			
Missouri Valley	− 7.14	73			
Northern slope	− 0.90	93			
Southern plateau	− 3.50	62			
Middle Pacific	− 1.30	93			
South Pacific	− 4.20	54			

DIURNAL VARIATION.

Table IV*b* gives the total precipitation for each hour of seventy-fifth meridian time, as deduced from self-registering gauges kept at about 43 regular stations of the Weather Bureau; of these 27 are float gauges and 6 are weighing gauges.

YEARS OF GREATEST PRECIPITATION FOR SEPTEMBER.

The precipitation for the current month was the greatest on record for the month of September at regular Weather Bureau stations, as shown in the following table:

Station.	Current precipitation.		Previous maximum.	
	Amount.	Departure.	Amount.	Year.
Harrisburg, Pa	5.53	+1.0	4.53	1889
Chicago, Ill	8.28	+5.4	6.93	1886
Kansas City, Mo	7.14	+2.7	7.08	1889
Springfield, Mo	8.52	+5.0	8.11	1890
Wichita, Kans	9.22	+8.0	2.12	1892
Palestine, Tex	10.04	+6.6	7.12	1886
Lander, Wyo	2.29	+2.0	0.77	1891
Los Angeles, Cal	0.73	+0.7	0.34	1889
San Francisco, Cal	1.05	+0.8	0.98	1888
Tatoosh Island, Wash	11.52	+6.6	11.06	1891
Neah Bay, Wash	13.84	+6.6	12.15	1885

YEARS OF LEAST PRECIPITATION FOR SEPTEMBER.

The precipitation for the current month was the least on record for the month of September at regular Weather Bureau stations, as shown in the following table:

Station.	Current precipitation.		Previous minimum.	
	Amount.	Departure.	Amount.	Year.
Narragansett Pier, R. I	1.90	− 2.9	1.99	1887
Knoxville, Tenn	0.47	− 2.7	0.63	1892

EXCESSIVE PRECIPITATION.

The following tables for September, 1894, show, by States,

the number of stations reporting total precipitation to equal or exceed 10.00 inches during this month, 2.50 in 24 hours, and 1.00 in 1 hour:

Monthly precipitation to equal or exceed 10.00 inches.

State.	Number of stations.	State.	Number of stations.
Florida	25	Illinois	1
New Jersey	7	Kentucky	1
Pennsylvania	3	New York	1
Georgia	1	Oregon	1

Daily precipitation to equal or exceed 2.50 in 24 hours.

State.	Number of stations.	Dates.	State.	Number of stations.	Dates.
New Jersey	34	8, 8–9, 9, 18, 18–19, 18–20, 19–20.	Louisiana	6	8, 9, 11, 11–12.
South Carolina	30	12–13, 17, 17–18, 18, 26, 26–27, 26–28, 27–28.	New York	6	8, 18–19, 19, 19–20.
Florida	26	25, 25–26.	Virginia	6	18, 19, 27–28, 29, 29–30.
Pennsylvania	25	7, 7–8, 8, 8–9, 9, 10, 16–17, 17–18, 18, 18–19, 19, 19–20.	Maine	5	19–20, 20, 20–21.
Missouri	17	1–2, 2, 2–3, 3, 3–4, 4, 4–5, 5, 14–15.	Ohio	5	5, 10, 18–19, 19, 19–20.
North Carolina	15	16–18, 17, 17–18, 17–19, 18, 26–27, 27, 27–28.	Arkansas	4	9, 9–10.
Illinois	14	3, 3–4, 4, 4–5, 7, 7–8, 14–15.	Michigan	4	4, 6–7, 7, 7–8.
Georgia	13	17, 17–18, 26, 26–27.	Mississippi	4	5–6, 7–8, 9–10, 10.
Connecticut	9	19, 19–20.	Nebraska	3	2, 3, 8.
Massachusetts	9	10, 19–20.	Delaware	2	8, 18–19, 19.
Iowa	8	6, 6–7, 14–15, 20–21, 22.	Indian Territory	2	1, 4–5.
Kansas	8	1–2, 2, 2–3, 3–4, 5–6, 9–10, 14.	Kentucky	2	15, 17–18.
Texas	8	7–8, 10–11, 11, 12, 15, 15–16, 18, 23, 23–24, 24.	Maryland	2	6–7, 19.
Wisconsin	8	6–7, 7, 14, 15.	New Hampshire	2	10, 20.
			West Virginia	2	18, 18–19.
			Alabama	1	7.
			Colorado	1	9.
			Indiana	1	3–4.
			Minnesota	1	7.
			North Dakota	1	6–7.
			Rhode Island	1	19–20.
			South Dakota	1	5.
			Vermont	1	10.
			Washington	1	25–26.

Hourly precipitation to equal or exceed 1.00 inch.

Pennsylvania	7	1, 7, 8, 14, 16, 18.	Mississippi	2	8, 12.
Kansas	6	2, 6, 7, 14, 16, 30.	New Hampshire	2	10, 20.
Missouri	6	3, 5, 9, 10, 12, 14.	North Dakota	2	7.
New Jersey	5	8, 8–9, 18.	Ohio	2	8.
Texas	5	7, 8, 10, 22, 24.	Wisconsin	2	8, 9.
Iowa	4	20, 22, 29.	Georgia	1	17.
North Carolina	4	2, 11, 17, 18.	Indiana	1	8.
Arkansas	3	2, 9.	Kentucky	1	4.
Florida	3	2, 3, 18, 19.	Maine	1	20.
South Carolina	3	11, 17, 26.	Nebraska	1	2.
Alabama	2	17.	Oklahoma	1	1.
Illinois	2	7, 14.	Tennessee	1	13.
Louisiana	2	6, 8.	West Virginia	1	18.
Minnesota	2	14, 21.			

Excessive precipitation, by stations, for September, 1894.

State and station.	Monthly rainfall 10 inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
Alabama.	*Inches.*	*Inches.*		*Inches*	*h. m.*	
Healing Springs		3.45	7			
Madison Station				1.06	1 00	17
Maple Grove				1.65	1 00	17
Arkansas.						
Fayetteville		3.47	9–10	3.16	3 00	9
Hot Springs [b]		3.37	9			
Hot Springs (near)		3.62	9			
Little Rock				1.25	1 25	9
Pine Bluff		2.65	9	1.14	1 05	2
Colorado.						
Springfield		3.56	9			
Connecticut.						
Bridgeport		3.54	19–20			
Canton		4.50	19–20			
Greenfield Hill		3.47	19–20			
Hartford [a]		4.74	19–20			
New Haven		3.10	19–20			
New Hartford [a]		3.80	19–20			
Norwalk		2.50	19			
Wallingford		3.60	19			
West Simsbury		4.59	19–20			

Excessive precipitation—Continued.

State and station.	Monthly rainfall 10 inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
Delaware.	*Inches.*	*Inches.*		*Inches*	*h. m.*	
Millsboro		2.96	19			
Newark		3.40	8			
Do		4.61	18–19			
Florida.						
Amelia	15.38	9.00	25–26			
Avon Park	11.16	4.02	25			
Brooksville	15.87	9.58	25–26			
Clermont	19.78	12.50	25–26			
Eustis	13.49	9.33	25–26			
Federal Point	19.19	11.25	25–26			
Fort Meade	14.65	7.30	25			
Gainesville	19.91	11.81	26–27			
Grasmere	15.71	10.89	25–26	1.08	0 45	2
Green Cove Springs	14.58	8.25	25–26			
Homeland	16.81	2.81	19			
Do		8.85	25			
Hypoluxo	17.75	10.40	24–25			
Jacksonville	16.63	9.86	25–26			
Jupiter	13.65	7.65	24–25			
Key West	17.29	3.45	3–4			
Do		7.05	24–25			
Kissimmee	16.20	11.25	25–26			
Merritta Island	15.77	9.66	25			
Myers		5.42	24–25			
New Smyrna	15.07	10.05	25–26			
Olga	14.42	6.30	25–26			
Orange City	11.60 [c]	8.10	25			
Orange Park	17.02	8.52	25–26			
Plant City	18.43	3.27	18–19			
Do		6.55	24–26			
Tampa	17.28	3.98	3–4	2.40	1 53	3
Do		4.62	18–19	1.55	1 25	19
Do		3.78	25–26			
Tarpon Springs	11.35	7.43	18–19			
Titusville	14.40	5.64	25–26	2.25	1 55	18
Georgia.						
Athens [a]		3.94	17–18			
Athens [b]		4.52	17–18			
Atlanta		4.70	17–18	1.70	1 70	17
Augusta		2.76	26–27			
Bragg		5.49	26–27			
Canton		4.34	17			
Dahlonega		2.65	17–18			
Darien	11.65	5.03	26			
Hephzibah		3.20	26			
Point Peter		3.75	17			
Savannah		3.71	26–27			
Way Cross		2.90	26–27			
Whitesburg		3.78	17			
Illinois.						
Aurora		3.48	3			
Chemung		3.83	7			
Chicago		3.35	3–4			
Galva		2.78	14–15	1.00	1 00	14
Lagrange		3.45	3–4			
Mascoutah		2.60	4			
Mattoon		2.55	4–5			
Monmouth		3.14	14			
Oswego		3.97	3–4			
Ottawa		3.06	7			
Riley	15.73	9.08	7	9.00	7 00	7
Rushville		3.37	3–4			
Sycamore		3.16	7–8			
Walnut		3.68	14–15			
Indiana.						
Angola				1.90	1 30	8
Lafayette		3.41	3–4			
Indian Territory.						
Lehigh		2.78	1			
Tahlequah		2.80	4–5			
Iowa.						
Atlantic				1.02	0 50	20
Bonaparte		3.05	22	2.63	1 00	22
Cedar Falls				1.29	1 00	29
Charles City		3.12	6			
Clinton		3.09	14–15			
Des Moines		2.60	20–21	1.50	0 20	20
Mount Pleasant		2.88	22			
Osceola		2.82	6–7			
Ottumwa		2.75	20–21			
Richland		3.86	20–21			
Kansas.						
Achilles				1.75	1 00	7
Altoona				1.07	1 00	6
Columbus		2.78	14	2.78	2 00	14
Halstead				1.95	1 30	30
Independence		2.80	2–3			
Kiowa		4.63	1–2			
Marion				1.50	0 15	16
Olathe		3.00	5–6			
Oswego		3.25	2	2.00	1 00	2
Sedan		2.54	3–4			
Wichita		3.10	3–4			
Do		2.70	9–10			
Yates Center		3.35	3			
Do		2.75	5–6			
Kentucky.						
Carrollton				1.59	0 30	4
Henderson		2.80	15			
Springfield		3.15	17–18			

Excessive precipitation—Continued.

State and station.	Monthly rainfall 10 inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
Louisiana.	*Inches.*	*Inches.*		*Inches*	*h. m.*	
Alexandria	.....	.....	.....	2.10	2 00	8
Baton Rouge	.....	2.67	11-12	.....	.....	.....
Cameron	10.45	3.70	9	.....	.....	.....
Do	.....	2.50	11	.....	.....	.....
Grand Coteau	.....	2.63	11	.....	.....	.....
Melville	.....	4.00	11-12	.....	.....	.....
Opelousas	.....	5.60	11-12	.....	.....	.....
Paincourtville	.....	.....	.....	1.60	1 35	6
Port Eads	.....	2.99	8	.....	.....	
Maine.						
Bar Harbor	.....	3.36	20	.....	.....	.....
Belfast	.....	2.84	19-20	.....	.....	.....
Madison	.....	3.25	20	.....	.....	.....
Mayfield	.....	3.95	19-20	.....	.....	.....
North Bridgton	.....	2.85	20-21	1.93	0 30	20
Maryland.						
Bachmans Valley	.....	3.28	6-7	.....	.....	.....
Darlington	.....	3.26	19	.....	.....	.....
Massachusetts.						
Fall River	.....	3.10	19-20	.....	.....	.....
Long Plain	.....	2.81	19-20	.....	.....	.....
Mount Nonotuck	.....	2.66	19-20	.....	.....	.....
Somerset	.....	2.87	19-20	.....	.....	.....
Springfield Armory	.....	3.87	19-20	.....	.....	.....
Taunton *b*	.....	2.53	19-20	.....	.....	.....
Taunton *c*	.....	2.88	19-20	.....	.....	.....
Taunton *d*	.....	2.60	19-20	.....	.....	.....
Winchendon	.....	3.91	10	.....	.....	.....
Michigan.						
Adrian	.....	3.35	4	.....	.....	.....
Alma	.....	5.50	7	.....	.....	.....
Grand Haven	.....	3.72	6-7	.....	.....	.....
Stanton	.....	2.95	7-8	.....	.....	.....
Minnesota.						
Caledonia	.....	2.60	7	.....	.....	.....
Maple Plain	.....	.....	.....	1.00	1 00	14
New Ulm	.....	.....	.....	1.00	1 00	21
Mississippi.						
Biloxi	.....	3.37	5-6	.....	.....	.....
Duck Hill	.....	.....	.....	1.12	1 00	8
Palo Alto	.....	.....	.....	1.19	1 00	12
Port Gibson	.....	3.05	9-10	.....	.....	.....
Water Valley	.....	2.70	10	.....	.....	.....
Waynesboro *b*	.....	3.22	7-8	.....	.....	.....
Missouri.						
Arthur	.....	3.10	4-5	.....	.....	.....
Carthage	.....	2.59	4	.....	.....	.....
Columbia	.....	3.93	14-15	2.51	1 20	14
Gayoso	.....	.....	.....	1.70	1 00	12
Gordonville	.....	2.83	5	2.83	1 00	5
Harrisonville	.....	3.26	3	.....	.....	.....
Kansas City	.....	3.93	2-3	1.81	1 00	3
Kidder	.....	4.19	2-3	.....	.....	.....
Lamar	.....	2.74	3	.....	.....	.....
Lebanon	.....	.....	.....	1.76	1 30	9
Maryville	.....	2.63	1-2	.....	.....	.....
Mexico	.....	3.33	14-15	.....	.....	.....
Oak Ridge	.....	2.50	5	.....	.....	.....
Panacea	.....	2.80	2	.....	.....	.....
Sarcoxie	.....	2.56	3-4	.....	.....	.....
Springfield	.....	3.25	14-15	1.02	0 30	10
Stellada	.....	2.64	2-3	.....	.....	.....
Virgil City	.....	3.70	2-3	.....	.....	.....
Warrensburg	.....	2.92	3-4	.....	.....	.....
Nebraska.						
Cortland	.....	2.87	2	.....	.....	.....
Creighton	.....	2.80	8	.....	.....	.....
Nebraska City	.....	3.75	3	.....	.....	.....
Seward	.....	.....	.....	1.80	1 30	2
New Hampshire.						
North Conway	.....	2.75	10	.....	.....	.....
Plymouth	.....	2.66	20	1.56	0 40	20
Stratford	.....	.....	.....	1.72	1 12	10
New Jersey.						
Asbury Park	.....	5.83	18-19	.....	.....	.....
Bayonne	.....	3.91	18-19	.....	.....	.....
Billingsport	.....	2.86	18	2.86	2 30	18
Bridgeton	.....	2.60	8-9	.....	.....	.....
Camden	.....	3.31	18-19	.....	.....	.....
Cape May	.....	2.64	8-9	.....	.....	.....
Cape May C. H	.....	2.60	8-9	2.60	2 00	8-9
Do	.....	4.50	19-20	.....	.....	.....
Charlotteburg	11.40	7.76	18-19	.....	.....	.....
Chester	.....	6.30	18-19	.....	.....	.....
Deckertown	.....	4.51	18-19	.....	.....	.....
Dover	.....	5.08	18-19	.....	.....	.....
Egg Harbor City	.....	3.93	18-19	1.75	1 40	18
Elizabeth	.....	3.54	18-19	.....	.....	.....
Franklin Furnace	.....	4.15	18-19	.....	.....	.....
Friesburg	.....	3.11	8-9	.....	.....	.....
Hightstown	.....	2.51	8	.....	.....	.....
Imlaystown	.....	3.61	8	.....	.....	.....
Do	.....	4.81	18-19	.....	.....	.....
Junction	.....	5.34	18-19	.....	.....	.....
Millville	.....	2.84	8-9	.....	.....	.....
Newark *a*	.....	4.03	18-19	.....	.....	.....
New Brunswick (W. B.)	11.03	5.74	18-19	.....	.....	.....
New Brunswick *a*	10.85	6.03	18-19	.....	.....	.....
New Brunswick *b*	11.13	.....	.....	.....	.....	.....
Newton	.....	4.50	18-19	.....	.....	.....
Oceanic	.....	4.23	8-9	3.35	1 15	8

Excessive precipitation—Continued.

State and station.	Monthly rainfall 10 inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
New Jersey—Cont'd.	*Inches.*	*Inches.*		*Inches*	*h. m.*	
Papakating	.....	4.66	18-19	.....	.....	.....
Paterson	10.41	7.44	18-19	.....	.....	.....
Plainfield	.....	3.43	18-19	1.51	1 00	8
River Vale	.....	4.90	18-20	.....	.....	.....
Salem	.....	3.50	9	.....	.....	.....
South Orange	.....	5.40	18-19	.....	.....	.....
Tenafly	10.23	7.29	18-19	.....	.....	.....
Trenton	.....	2.60	8	.....	.....	.....
Vineland	.....	3.63	8-9	.....	.....	.....
Woodbine	11.65	2.60	8-9	.....	.....	.....
Do	.....	5.55	18-19	.....	.....	.....
New York.						
Bedford	.....	3.09	19	.....	.....	.....
Minnewaska	.....	5.60	19-20	.....	.....	.....
New York	.....	4.75	18-19	.....	.....	.....
Port Jervis	.....	4.61	18-19	.....	.....	.....
Warwick	10.11	.....	.....	.....	.....	.....
West Point	.....	3.37	19	.....	.....	.....
Willets Point	.....	2.65	8	.....	.....	.....
Do	.....	3.90	19	.....	.....	.....
North Carolina.						
Auburn	.....	.....	.....	1.30	1 00	.....
Chapel Hill	.....	3.99	17-19	.....	.....	.....
Charlotte	.....	3.16	17-18	.....	.....	.....
Fair Bluff	.....	3.40	26-27	.....	.....	.....
Fayetteville	.....	3.50	26-27	.....	.....	.....
Goldsboro	.....	2.55	27-28	.....	.....	.....
Greensboro	.....	2.69	18	2.69	2 30	18
Hatteras	.....	5.16	26-27	.....	.....	.....
Horse Cove	.....	3.77	17	3.00	1 00	17
Kittyhawk	.....	4.30	26-27	.....	.....	.....
Lilesville	.....	4.00	16-18	.....	.....	.....
Lumberton	.....	5.11	26-27	.....	.....	.....
Pittsboro	.....	2.70	18	.....	.....	.....
Selma	.....	2.91	27	.....	.....	.....
Southern Pines	.....	3.50	27	.....	.....	.....
Southport	.....	3.76	26-27	1.16	0 57	11
North Dakota.						
Bismarck	.....	3.67	6-7	2.00	1 00	7
Napoleon	.....	.....	.....	1.25	0 30	7
Ohio.						
Akron	.....	.....	.....	1.64	0 35	8
Dupont	.....	.....	.....	1.22	1 00	8
Hillhouse	.....	3.27	19-20	.....	.....	.....
Pataskala	.....	2.50	18-19	.....	.....	.....
Ridge	.....	2.97	19	.....	.....	.....
Sylvania	.....	2.61	5	.....	.....	.....
Weymouth	.....	2.57	10	.....	.....	.....
Oklahoma.						
Fort Sill	.....	.....	.....	2.03	1 30	1
Stillwater	.....	2.84	4-5	.....	.....	.....
Oregon.						
Nehalem	11.48	.....	.....	.....	.....	.....
Pennsylvania.						
Bethlehem	.....	4.67	8	3.20	0 40	8
Browers Lock	.....	3.93	9	.....	.....	.....
Do	.....	3.17	18	.....	.....	.....
Clarion	12.36	4.07	7-8	.....	.....	.....
Do	.....	2.53	10	.....	.....	.....
Coatesville	.....	2.93	8	.....	.....	.....
Do	.....	3.27	19	.....	.....	.....
Doylestown	.....	4.00	7	.....	.....	.....
East Mauch Chunk	.....	2.87	19	.....	.....	.....
Easton	.....	3.90	19-20	.....	.....	.....
Forks of Neshaminy	.....	3.33	8	.....	.....	.....
Frederick	.....	2.51	8	.....	.....	.....
Gettysburg	.....	2.50	18-19	.....	.....	.....
Huntingdon	.....	2.83	9	.....	.....	.....
Kennett Square	.....	2.80	8-9	.....	.....	.....
Do	.....	2.60	19	.....	.....	.....
Lansdale	.....	3.60	8	.....	.....	.....
Lock Haven	.....	.....	.....	1.45	1 00	8
Lycippus	.....	.....	.....	1.80	0 35	7
Do	.....	.....	.....	1.07	0 15	8
Do	.....	.....	.....	1.00	0 45	14
Mahoning	.....	3.60	19-20	.....	.....	.....
Ottsville	.....	4.21	18	.....	.....	.....
Parker	.....	3.61	19-20	.....	.....	.....
Philadelphia (W. B.)	.....	.....	.....	1.00	1 00	8
Philadelphia *b*	.....	2.57	8-9	.....	.....	.....
Phœnixville	.....	2.98	8	.....	.....	.....
Do	.....	3.67	17-18	.....	.....	.....
Point Pleasant	10.67	7.32	18	7.32	7 40	18
Pottstown	.....	4.17	8	.....	.....	.....
Quakertown	.....	2.78	18	.....	.....	.....
Reading	.....	2.55	8	.....	.....	.....
Saltsburg	.....	.....	.....	1.33	0 45	14
Smiths Corners	11.61	7.70	18	.....	.....	.....
Wellsboro	.....	2.60	18-19	.....	.....	.....
York	.....	2.68	16-17	2.20	0 57	16
Rhode Island.						
Kingston	.....	2.50	19-20	.....	.....	.....
South Carolina.						
Allendale	.....	3.70	26-27	.....	.....	.....
Batesburg	.....	2.90	26-27	.....	.....	.....
Blackville	.....	3.10	26-27	.....	.....	.....
Blenheim	.....	3.30	26	.....	.....	.....
Branchville	.....	5.20	27-28	.....	.....	.....
Camden	.....	3.80	17-18	.....	.....	.....
Charleston	10.94	7.00	26-27	1.98	1 00	26
Cheraw *a*	.....	4.12	26-27	.....	.....	.....

Table of excessive precipitation—Continued.

State and station.	Monthly rainfall 10 inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
South Carolina—Cont'd.	*Inches.*	*Inches.*		*Inches*	*h. m.*	
Cheraw *b*		2.55	18			
Do		4.83	26-27			
Conway		4.87	26-28			
Edisto		4.37	26-27			
Effingham		2.80	18			
Do		2.60	26-27			
Flint Hill		3.50	17-18			
Florence		3.98	26-27			
Georgetown	10.35	6.00	26			
Hardeeville		3.75	12-13			
Do		4.60	26-27			
Kingstree *a*		4.89	26-27			
Kingstree *b*		3.00	26			
Longshore		3.58	17			
McCormick		2.60	17-18	1.25	1 00	17
Pinopolis	10.74	8.00	26-27			
Port Royal		3.26	18			
Do		4.20	26-27			
St. Georges	10.42	5.50	26-27			
St. Matthews		3.10	26-27			
St. Stephens		4.40	26-27			
Simpsonville				1.24	0 25	11
Society Hill		4.12	26			
Statesburg		3.78	18			
Trenton		3.47	26-27			
Trial		5.47	26-27			
Watts		3.45	17-18			
South Dakota.						
Castlewood		2.63	5			
Tennessee.						
Loudon				1.30	1 15	13
Texas.						
Alice				1.80	0 45	15
Beaumont		3.04	11	2.01	2 00	24
Brazoria				2.34	2 15	22
Camp Eagle Pass		3.20	23			
Fort Clark		3.42	15-16			
Do		2.80	18			
Fort Stockton		2.72	7-8	2.15	2 00	7
Hallettsville				1.30	1 00	8
Hearne				2.25	1 25	10
Marshall		3.60	12			
Mountain Spring		3.25	15			
Palestine	10.04	5.26	10-11	2.12	1 15	10
Do		3.13	23-24	1.21	1 00	24
Victoria		3.13	24			
Vermont.						
Vernon		2.72	10			
Virginia.						
Avon		2.70	29-30			
Birdsnest		3.60	27-28			
Buckingham		3.30	29			
Houston		2.50	18			
Nottoway		3.24	29-30			
Richmond (near)		2.69	19			
Washington.						
Neah Bay	13.84					
Tatoosh Island	11.52	2.81	25-26			
West Virginia.						
Burlington		3.40	18-19			
Madison		3.30	18	3.30	2 00	18
Wisconsin.						
Belleville				2.00	1 10	8
Beloit		3.65	7			
Delavan		2.60	7			
Hartford		2.56	15			
Janesville		2.70	14			
La Crosse		3.48	6-7			
Milwaukee				1.00	0 50	9
Oconomowoc		3.01	15			
Sharon		3.40	7			
Viroqua		2.91	6-7			

Excessive precipitation in August, 1894, received too late for publication.

Texas.						
Coldwater		3.10	1			
San Antonio (W. B.)		2.98	8			

MAXIMUM RAINFALL FROM SELF-REGISTERING GAUGES.

The following table gives the heaviest rainfall during September, 1894, for periods of 5, 10, and 60 minutes, as recorded on self-registering rain gauges at regular stations of the Weather Bureau. This record refers strictly to rainfall. About 37 stations are furnished with self-registering-float rain gauges and 6 with the self-registering-weighing rain-and-snow gauge. The float gauge does not record snowfall, and both forms are liable to be interrupted by snow and ice:

Maximum rainfall in one hour or less.

Station.	Maximum rainfall in—					
	5 min.	Date.	10 min.	Date.	1 hour.	Date.
	Inch.		*Inch.*		*Inch.*	
Atlanta, Ga	0.23	11	0.39	17	1.70	17
Baltimore, Md	0.30	8	0.47	8	0.50	8
Bismarck, N. Dak.*	0.75	7	1.00	7	2.00	7
Boston, Mass	0.09	20	0.13	20	0.31	20
Buffalo, N. Y.*	0.16	13	0.24	13	0.58	5
Chicago, Ill	0.20	6, 8	0.40	6	0.63	6
Cincinnati, Ohio	0.14	17	0.25	17	0.45	17
Cleveland, Ohio	0.19	8	0.30	8	0.40	5
Denver, Colo	0.22	7	0.37	7	0.55	7
Detroit, Mich	0.10	15	0.13	15	0.26	3
Dodge City, Kans	0.16	5	0.20	5	0.30	5
Duluth, Minn	0.12	14	0.17	14	0.30	14, 29
Eastport, Me	0.05	17	0.10	17	0.19	17
Galveston, Tex	0.25	17	0.39	17	0.71	14
Indianapolis, Ind	0.13	13	0.21	15	0.35	10
Jacksonville, Fla	0.36	5	0.38	5	0.97	26
Jupiter, Fla.*	0.35	14	0.50	14	0.75	25
Kansas City, Mo	0.35	3	0.60	3	1.81	3
Key West, Fla						
Marquette, Mich	0.06	22	0.10	22	0.30	22
Memphis, Tenn	0.15	10	0.20	10	0.45	10
Milwaukee, Wis	0.65	9	0.70	9	1.00	9
Nantucket, Mass	0.15	17	0.17	17	0.41	30
Nashville, Tenn	0.26	10	0.31	10	0.98	16
New Orleans, La	0.06	12	0.09	12	0.18	12
New York, N. Y	0.30	8	0.50	8	0.96	19
Norfolk, Va	0.35	1	0.50	1	0.77	1
Omaha, Nebr						
Philadelphia, Pa	0.18	8	0.35	8	1.00	8
Pittsburg, Pa	0.25	7	0.40	7	0.65	19
Portland, Me	0.13	20	0.21	20	0.41	20
Portland, Oreg	0.02	1	0.04	1	0.13	1
Rochester, N. Y	0.10	20	0.13	20	0.20	20
St. Louis, Mo	0.22	4	0.25	4	0.60	4
St. Paul, Minn	0.21	14	0.23	14	0.40	14
Salt Lake City, Utah	0.04	7	0.07	6	0.20	6
San Diego, Cal.†						
San Francisco, Cal	0.03	29, 30	0.05	29, 30	0.16	30
Savannah, Ga	0.20	12	0.35	12	0.73	12
Seattle, Wash	0.22	5	0.31	5	0.42	5
Vicksburg, Miss	0.22	13	0.40	13	0.66	13
Washington, D. C	0.08	19	0.13	19	0.38	19
Wilmington, N. C	0.17	5	0.31	5	0.92	6

*Record incomplete. † Less than 0.05 in 1 hour.

FREQUENCY OF EXCESSIVE PRECIPITATION.

The following tables show the number of years for which monthly precipitation to equal or exceed 10.00 inches, daily precipitation to equal or exceed 2.50 inches, and hourly precipitation to equal or exceed 1.00 inch has been reported in the several States and Territories for September during the last twenty-four years:

Frequency of excessive monthly precipitation.

State.	No. years noted.	State.	No. years noted.
Florida	22	Washington	4
Texas	14	Missouri	3
North Carolina	12	Wisconsin	3
Georgia	10	New York	3
Iowa	8	Ohio	2
Louisiana	8	Delaware	2
Alabama	7	Michigan	2
South Carolina	7	Illinois	2
New Hampshire	6	Oregon	2
Mississippi	6	Arkansas	1
Kansas	5	Connecticut	1
New Jersey	5	District of Columbia	1
Pennsylvania	5	Indian Territory	1
Virginia	5	Kentucky	1
Indiana	4	Maryland	1
Massachusetts	4	Minnesota	1
Nebraska	4	Vermont	1

Frequency of excessive daily precipitation.

North Carolina	22	Michigan	13
Texas	21	Louisiana	13
Florida	20	Ohio	12
Georgia	18	Wisconsin	11
Mississippi	18	Connecticut	10
South Carolina	18	Pennsylvania	10
Kansas	16	New Jersey	10
Virginia	16	Kentucky	10
Illinois	15	Nebraska	10
Iowa	15	New York	10
Alabama	15	Indiana	10
Tennessee	14	North and South Dakota	9
Missouri	14	Minnesota	9
Arkansas	14	Maryland	9

Frequency of excessive daily precipitation—Continued.

State.	No. years noted.	State.	No. years noted.
Massachusetts	8	Vermont	4
Indian Territory	8	Arizona	2
New Hampshire	6	New Mexico	2
West Virginia	5	Colorado	2
Maine	5	Delaware	2
District of Columbia	4	Rhode Island	2
Oregon	4	California	1
Washington	4	Montana	1

Frequency of excessive hourly precipitation.

Texas	18	Michigan	4
Florida	16	Virginia	4
Georgia	13	Kentucky	4
Nebraska	11	Missouri	4
North Carolina	10	Arkansas	3
Illinois	8	Indiana	3
Louisiana	8	Minnesota	3
New York	7	New Hampshire	3
Kansas	7	Wisconsin	3
Tennessee	7	North and South Dakota	2
Alabama	7	Maine	2
South Carolina	6	New Jersey	2
Pennsylvania	6	District of Columbia	1
Mississippi	6	Massachusetts	1
Arizona	5	Vermont	1
Iowa	5	Connecticut	1
Ohio	5	Maryland	1
Indian Territory	5	Washington	1
West Virginia	5		

EXCEPTIONAL PRECIPITATION.

The following tables give exceptionally heavy monthly, daily, and hourly precipitations reported for September, by any station, regular or voluntary, and in any year since 1871:

Exceptional monthly precipitation.

Station and state.	Amt.	Year.	Station and state.	Amt.	Year.
	Inches.			*Inches.*	
Brownsville, Tex	30.57	1886	Mayport, Fla	23.24	1885
Saint Marys, Ga	27.41	1885	Brunswick, Ga	22.08	1885
Elsworth, N.C	26.50	1881	Homeland, Fla	21.15	1890
Galveston, Tex	26.01	1885	Jacksonville, Fla	21.12	1878
Paterson, N. J	25.98	1882	Spartanburg, S. C	20.44	1888
Biscayne, Fla	25.10	1878	Wilmington, N. C	20.10	1877
St. Augustine, Fla	23.90	1871	Darien, Ga	20.05	1892
Merritts Island, Fla	23.78	1878			

Exceptional daily precipitation.

Station and state.	Amount.	Date.	Station and state.	Amount.	Date.
	Inches.			*Inches.*	
Paterson, N. J	17.90	21–24, 1882	Tarpon Springs, Fla	7.43	18–19, 1894
Elsworth, N. C	13.00	15–16, 1881	Mt. Washington, N. H.	7.41	15, 1880
Clermont, Fla	12.50	25–26, 1894	Abbeville, S. C	7.40	10, 1888
Franklin, La	12.30	6–7, 1893	Point Pleasant, Pa	7.32	18, 1894
Gainesville, Fla	11.81	26–27, 1894	Fort Meade, Fla	7.30	25, 1894
Federal Point, Fla	11.25	25–26, 1894	Wilmington, N. C	7.30	10, 1883
Kissimmee, Fla	11.25	25–26, 1894	Tenafly, N. J	7.29	18–19, 1894
Grasmere, Fla	10.89	25–26, 1894	Key West, Fla	7.05	24–25, 1894
Genoa, Nebr	10.60	1, 1887	Wytheville, Va	7.02	12, 1878
Hypoluxo, Fla	10.40	24–25, 1894	Charleston, S. C	7.00	26–27, 1894
New Smyrna, Fla	10.05	25–26, 1894	Mobile, Ala	7.00	18, 1877
Paincourtville, La	10.00	6–8, 1893	Fort Hays, Kans	7.00	12, 1871
Darien, Ga	9.87	17–19, 1892	Shreveport, La	7.00	17, 1875
Jacksonville, Fla	9.86	25–26, 1894	Portsmouth, N.C	7.00	12, 1884
Donaldsonville, La	9.84	7–8, 1893	Columbus, N. C	6.94	21–22, 1892
Merritts Island, Fla	9.66	25, 1894	Homeland, Fla	6.85	1, 1890
Brooksville, Fla	9.58	25–26, 1894	Pontotoc, Miss	6.82	12, 1892
Eustis, Fla	9.33	25–26, 1894	Central, S. C	6.80	8–9, 1893
Riley, Ill	9.08	7, 1894	Plaquemine, La	6.75	7–8, 1893
Amelia, Fla	9.00	25–26, 1894	Hammond, La	6.74	7–8, 1893
Homeland, Fla	8.85	25, 1894	Greenville, Miss	6.68	4–5, 1892
Orange Park, Fla	8.52	25–26, 1894	Milledgeville, Ga	6.50	28, 1890
Jeanerette, La	8.32	6–7, 1893	Topton, Miss	6.50	7–8, 1893
Green Cove Sp'gs, Fla	8.25	25–26, 1894	South Canisteo, N. Y	6.48	10, 1890
Nashua, Iowa	8.22	25, 1880	Columbia, Tex	6.47	10–11, 1890
Orange City, Fla	8.10	25, 1894	Hot Springs, Ark	6.45	22–23, 1890
Pinopolis, S. C	8.00	26–27, 1894	Columbus, N. C	6.45	9, 1893
Emilie, La	8.00	6–7, 1893	Olga, Fla	6.30	25–26, 1894
Key West, Fla	7.90	21–22, 1889	Chester, N. J	6.30	18–19, 1894
College Station, Tex	7.84	4, 1889	Amite, La	6.15	6–8, 1893
Jesup, Ga	7.82	27, 1885	Hardeeville, S. C	6.14	8–9, 1893
Charlotteburg, N. J	7.76	18–19, 1894	Lonoke, Ark	6.12	11, 1892
Smiths Corners, Pa	7.70	18, 1894	Columbus, N. C	6.10	13, 1892
Jupiter, Fla	7.65	24–25, 1894	Covington, La	6.09	6–8, 1893
Sedan, Kans	7.52	10–11, 1889	New Brunswick, N. J. *a*	6.03	18–19, 1894
South Fork, Ky	7.50	17–18, 1889	Flat Rock, N. C	6.03	11, 1893
South Orange, N. J	7.50	23, 1882	Brazoria, Tex	6.03	24, 1891
Paterson, N. J	7.44	18–19, 1894	Purcell, Ind. T	6.02	23–24, 1893

Exceptional daily precipitation—Continued.

Station and state.	Amount.	Date.	Station and state.	Amount.	Date.
	Inches.			*Inches.*	
Georgetown, S. C	6.00	26, 1894	Trial, S. C	5.47	26–27, 1894
Huntingburg, Ind	6.00?	13, 1892	Charleston, S. C	5.42	24–25, 1890
Tyler, Tex	5.99	11–12, 1892	Junction, N. J	5.34	18–19, 1894
S. McAlester, Ind. T	5.98	23–24, 1893	Wedgwood, N. Y	5.34	10, 1890
Society Hill, S. C	5.91	11–12, 1893	New Braunfels, Tex	5.27	8, 1890
Horse Cove, N. C	5.83	12–13, 1892	Palestine, Tex	5.26	10–11, 1894
Asbury Park, N. J	5.83	18–19, 1894	Mount Vernon, Mo	5.22	22, 1893
New Brunswick, N. J	5.74	18–19, 1894	Centerville, Mo	5.20	8–9, 1890
Minden, La	5.72	22, 1890	Brewer Mine, S. C	5.20	13–14, 1890
Okolona, Miss	5.70	25, 1893	Millen, Ga	5.20	20–22, 1892
Titusville, Fla	5.64	25–26, 1894	Hypoluxo, Fla	5.20	15–16, 1892
Opelousas, La	5.60	11–12, 1894	Cabool, Mo	5.20	22, 1893
Minnewaska, N. Y	5.60	19–20, 1894	Branchville, S. C	5.20	27–28, 1894
Glenora, Oregon	5.58	22, 1892	Hatteras, N. C	5.16	26–27, 1894
Woodbine, N. J	5.55	18–19, 1894	Roseland, La	5.15	7–8, 1893
Bristol, Tenn	5.54	7, 1893	Lumberton, N.C	5.11	26–27, 1894
Alma, Mich	5.50	7, 1894	Dover, N. J	5.08	18–19, 1894
Midland, Tex	5.50	29–30, 1891	Darien, Ga	5.03	26, 1894
St. Georges, S. C	5.50	26–27, 1894	Mobile, Ala	5.01	7–8, 1893
Bragg, Ga	5.49	26–27, 1894	New Iberia	5.00	7, 1893

Exceptional precipitation for one hour or less.

Station and state.	Amount.	Time.	Date.
	Inches.	*h. m.*	
Demos, Ohio	2.00	0 05	5, 1890
Bismarck, N. Dak.*	0.75	0 05	7, 1894
Milwaukee, Wis	0.65	0 05	9, 1894
Jacksonville, Fla	0.62	0 05	6, 1891
Do	0.54	0 05	14, 1892
Wilmington, N. C	0.47	0 05	20, 1892
Key West, Fla	0.45	0 05	20, 1891
Jupiter, Fla	0.40	0 05	8, 1891
Galveston, Tex	0.38	0 05	16, 1891
Jacksonville, Fla	0.36	0 05	5, 1894
New York, N. Y	0.35	0 05	17, 1890
Jupiter, Fla.*	0.35	0 05	14, 1894
Kansas City, Mo	0.35	0 05	3, 1894
Savannah, Ga	0.35	0 05	12, 1890
Do	0.35	0 05	24, 1890
Norfolk, Va	0.35	0 05	25, 1892
Do	0.35	0 05	1, 1894
Dodge City, Kans	0.34	0 05	3, 1892
Savannah, Ga	0.34	0 05	9, 1893
Norfolk, Va	0.32	0 05	10, 1893
Do	0.32	0 05	14, 1890
Philadelphia, Pa	0.31	0 05	14, 1892
Baltimore, Md	0.30	0 05	8, 1894
New York, N. Y	0.30	0 05	8, 1894
Do	0.30	0 05	7, 1893
Jupiter, Fla	0.30	0 05	2, 1892
Memphis, Tenn	0.30	0 05	4, 1892
Jupiter, Fla	0.30	0 05	5, 1890
Washington, D. C	0.30	0 05	11, 1890
Nashville, Tenn	0.26	0 05	10, 1894
Cincinnati, Ohio	0.25	0 05	4, 1892
Jupiter, Fla	0.25	0 05	1, 1893
Do	0.25	0 05	15, 1893
Jacksonville, Fla	0.25	0 05	7, 1893
Tampa, Fla	0.25	0 05	8, 1893
Indianapolis, Ind	0.25	0 05	19, 1892
Galveston, Tex	0.25	0 05	17, 1894
Pittsburg, Pa	0.25	0 05	7, 1894
Kansas City, Mo	0.25	0 05	10, 1892
Savannah, Ga	0.25	0 05	12, 1892
New York, N. Y	0.45	0 08	21, 1882
Kirkwood, S. C	1.50	0 10	14, 1890
Jacksonville, Fla	1.18	0 10	6, 1891
Pine Apple, Ala	1.10	0 10	5, 1890
Bismarck, N. Dak.*	1.00	0 10	7, 1894
Wilmington, N. C	0.74	0 10	20, 1892
Milwaukee, Wis	0.70	0 10	9, 1894
Norfolk, Va	0.60	0 10	25, 1892
Kansas City, Mo	0.60	0 10	3, 1894
Jacksonville, Fla	0.59	0 10	14, 1892
Dodge City, Kans	0.58	0 10	3, 1892
Jupiter, Fla	0.55	0 10	2, 1892
Do	0.50	0 10	15, 1893
Norfolk, Va	0.50	0 10	10, 1893
Jupiter, Fla.*	0.50	0 10	14, 1894
New York, N. Y	0.50	0 10	8, 1894
Norfolk, Va	0.50	0 10	1, 1894
Savannah, Ga	0.50	0 10	9, 1893
Alpena, Mich	1.05	0 11	10, 1884
Marion, Kans	1.50	0 15	16, 1894
Spencer, W. Va	1.10	0 15	22, 1893
Lycippus, Pa	1.07	0 15	8, 1894
Omaha, Nebr	1.00	0 15	28, 1881
Howe, Tex	3.00	0 20	10, 1889
Emilie, Kans	1.24	0 20	3, 1891
Louisville, Ga	2.00	0 25	22, 1892
Franklin, Ky	2.00	0 30	4, 1892
Charleston, S. C	2.00	0 30	13, 1877
North Bridgton, Me	1.93	0 30	20, 1894
Cedar Keys, Fla	1.70	0 30	2, 1888
Orlando, Fla	1.67	0 30	7, 1893
Carrollton, Ky	1.59	0 30	4, 1894
Rio Grande City, Tex	1.93	0 35	26, 1879

Exceptional precipitation for one hour or less—Continued.

Station and state.	Amount.	Time.	Date.
	Inches.	*h. m.*	
Lycippus, Pa.	1.80	0 35	7, 1894
Bethlehem, Pa.	3.29	0 40	8, 1894
Monroe, La	4.12	0 45	22, 1890
Fort Davis, Tex.	2.42	0 45	9, 1880
Fort Meade, Fla	3.50	1 00	6, 1891
Purcell, Ind. T.	3.30	1 00	24, 1893
Horse Cove, N. C	3.00	1 00	17, 1894
Luling, La	9.32	4 10	20-21, 1891

*Record incomplete.

HAIL.

The following are the dates on which hail fell in the respective States:

Arizona, 2, 30. California, 30. Colorado, 7, 27, 28. Florida, 24. Idaho, 13. Illinois, 3, 7, 8, 9. Indiana, 12, 18. Iowa, 4, 7, 9, 20, 21, 22. Kansas, 1 to 8, 16, 20, 23, 28. Maine, 5. Massachusetts, 10. Michigan, 4, 7, 10, 22, 23, 24. Minnesota, 21. Missouri, 8, 20, 22. Montana, 13, 21. Nebraska, 7, 12. Nevada, 1, 30. New Jersey, 8. New Mexico, 4, 8, 9. New York, 25. North Carolina, 1. North Dakota, 22. Ohio, 8. Oklahoma, 20. Oregon, 12, 26, 27. Pennsylvania, 8, 10. South Dakota, 5, 7. Tennessee, 17. Texas, 5, 20. Utah, 5. Washington, 15, 25, 26. Wisconsin, 7, 9, 14. Wyoming, 30.

SLEET.

The following are the dates on which sleet fell in the respective States:

Colorado, 2, 4, 7, 8, 9, 13, 27, 28, 30. Minnesota, 29. Montana, 12, 13. Nebraska, 14. Nevada, 27, 29, 30. New York, 25. North Dakota, 23, 29. Oregon, 13. South Dakota, 29. Utah, 7, 11.

MONTHLY SNOWFALL.

The depth of snow that fell during the month of September was not sufficient to require its presentation on Chart V. The dates of first snowfall are given in the table of frosts on page 360. The actual depths, so far as reported, together with the amount lying on the ground at the middle and close of the month, are shown in the following table:

By comparison with the normal amount of snowfall for these stations it will be seen that the quantity of snow at high stations in the Rocky Mountain plateau is rather above the normal for September.

Monthly snowfall and amounts on ground on the 15th and at close of month.

State and station.	Total.	15th.	30th.	State and station.	Total.	15th.	30th.
California.	*Inches.*	*Ins.*	*Ins.*	*Montana*—Cont'd.	*Inches.*	*Ins.*	*Ins.*
Cisco	7.0	.....	.....	Kipp	2.0	.....	.....
La Porte	7.5	.....	.....	Marysville	1.8	.....	.....
Summerdale	.....	.....	7.0	Virginia City	8.5	.....	.....
Summit	5.0	.....	.....	*Nevada.*			
Colorado.				Austin	4.0	.....	4.0
Climax	12.0	.....	.....	Belmont	2.1	.....	2.0
Pikes Peak	21.2	5.8	0.5	Ely	1.0	.....	.....
Red Cliff	3.5	.....	.....	Empire Ranch	1.0	.....	.....
Ruby	9.0	.....	4.0	Marlette Lake	3.8	.....	2.0
Steamboat Spring	4.0	.....	1.0	Osceola	2.0	.....	.....
Idaho.				Palmetto	6.0	.....	1.5
Lake	6.0	.....	.....	*Oregon.*			
Paris	4.0	.....	.....	Mount Hood	6.2	.....	.....
Montana.				*Utah.*			
Butte	1.5	.....	.....	Grouse Creek	3.0	.....	.....
Hogan	6.0	.....	.....	Scofield	1.0	.....	0.5

WIND.

PREVAILING WINDS.

The prevailing winds for September, 1894, viz, those that were recorded most frequently at Weather Bureau stations, are shown in Tables I and VIII; they are not given on Chart II, as has hitherto been the custom, but the resultant winds are published instead.

RESULTANT WINDS.

The resultant winds for the current month, as deduced from the hourly records by self-registers at about 67 regular Weather Bureau stations, are given in Table VIII. Other resultants, deduced from the personal observations made at 8 a. m. and 8 p. m., are given in Table IX. These latter resultants are also shown graphically on Chart II, in connection with the isobars based on the same system of simultaneous observation; the small figure attached to each arrow shows the number of hours that this resultant prevailed, on the assumption that each of the morning and evening observations represents one hour's duration of a wind of average velocity; these figures (or the ratio between them and the total number of observations in this month) indicate the extent to which winds from different directions counterbalanced each other. The original north, south, east, and west components are given in detail in Table IX.

During September the resultant movement was generally from the east and northeast in the south Atlantic and east Gulf States; from the southeast from the Rocky Mountains to the Mississippi River and upper Lake region; from the south in New England and New York.

HIGH WINDS.

Maximum wind velocities of 50 miles, or more, per hour were reported at regular stations of the Weather Bureau as follows; (maximum velocities are averages for five minutes; extreme velocities are gusts of shorter duration, and are not given in this table):

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
		Miles.				*Miles.*	
Amarillo, Tex.	9	54	n.	Key West, Fla	25	87	sw.
Block Island, R. I	30	60	ne.	Kittyhawk, N. C	27	60	ne.
Bismarck, N. Dak.	22	59	nw.	Pikes Peak, Colo	13	86	sw.
Buffalo, N. Y	10	50	w.	Do	22	82	nw.
Do	26	54	se.	Do	28	84	sw.
Fort Canby, Wash.	25	72	se.	Southport, N. C	27	54	se.
Do	26	54	se.	Tatoosh Island, Wash.	20	51	s.
Huron, S. Dak.	12	62	se.	Do	24	52	e.
Do	13	51	s.	Titusville, Fla	24	50	se.
Do	22	60	w.	Do	25	66	ne.
Do	25	55	s.	Do	26	60	sw.
Jupiter, Fla	25	50	ne.	Winnemucca, Nev.	6	50	nw.
Key West, Fla	24	62	ne.				

LOCAL STORMS.

Destructive or severe local storms were reported as follows:

1st.—Near Bailey, N. C., hailstorm. Wichita, Kans., thunderstorm. Salt Lake City, Utah, rainstorm.

2d.—Louisville, Ky., Indianapolis, Ind., and Coffeyville and near Wichita, Kans., thunderstorms.

3d.—Tampa, Fla., one person stunned by lightning. Near Keesees Ferry, Ark., and Yates Center, Kans., thunderstorms.

4th.—Central, S. C., one person stunned by lightning. Near Thornville, Mich., hailstorm. Wyandotte, Mich., and Winfield, Kans., thunderstorms. Near Wichita, Kans., one person killed and 4 shocked by lightning. Metz, Mo., horse killed by lightning.

5th.—Yates Center, Kans., thunderstorm. Altoona, Kans., one person killed and one stunned by lightning.

6th.—Ovid, Iowa, windstorm. Conception, Mo., and Bismarck, N. Dak., thunderstorms.

7th.—Fairford, Ala., rainstorm. Chemung and Woodstock, Ill., stock killed by lightning. Sharon, Wis., and Lexington, Nebr., thunderstorms. In Furnas County, Nebr., man killed by lightning.

8th.—New York, N. Y., one person killed by lightning. Bethlehem, Pa., rainstorm. Philadelphia, Pa., and Baltimore, Md., thunderstorms. Akron, Ohio, windstorm. Garden Prairie and Marengo, Ill., thunderstorms. Sycamore, Ill., hailstorm. Newaygo, Mich., one person killed by lightning. Whitehall, Mich., 2 persons killed by lightning. Hanover, Mich., windstorm. Clinton, Mich., and Maryville, Mo., thunderstorms.

9th.—Bridgeton, N. J., York County, Pa., and Huntley, Ill., thunderstorms. Rochelle, Ill., one person killed by lightning. Saginaw, Mich., thunderstorm. Berrien Springs, Mich., windstorm. Columbus, Kans., a man and horse killed by lightning.

10th.—Leeds, Mass., windstorm. Winchendon. Mass., North Hammond and Buffalo, N. Y., thunderstorms. South Canisteo, N. Y. horse killed by lightning. Near Bayonne, N. J., thunderstorm. Nashville, Tenn., windstorm.

12th.—Memphis, Tenn., windstorm; one person killed. Charleston, Mo., windstorm; 2 persons killed.

13th.—Pierre, S. Dak., windstorm.

14th.—Westfield, Wis., windstorm.

15th.—Wahpeton, N. Dak., windstorm.

16th.—Columbia, S. C., and Marion, Kans., thunderstorms. Wamego, Kans., hailstorm.

17th.—Ashland, Va., thunderstorm.

18th.—Chester, N. J., thunderstorm. Madison, W. Va., thunderstorm.

19th.—Tampa, Fla., rainstorm.

20th.—Des Moines, Knoxville, Logan, and Osceola, Iowa, hailstorms. St. Joseph, Mo., windstorm. Olsburg and Glasco, Kans., thunderstorms. Beloit, Kans., hailstorm.

21st.—For description of tornadoes see report by Prof. Hazen.

22d.—Near Delphi, Ind., and near Van Wert, Ohio, windstorms. Richland Center, Wis., thunderstorm. New Hartford, Mo., stock killed by lightning. Bratton, Nebr., and Ellendale and Napoleon, N. Dak., windstorms.

23d.—Buffalo, N. Y., windstorm.

25th.—Malone, N. Y., hailstorm.

26th.—Everett, Mich., windstorm.

27th.—Delavan, Wis., thunderstorm.

THE VIOLENT LOCAL STORMS OF SEPTEMBER 21.

By Prof. H. A. Hazen.

On this evening and night a very remarkable series of wind-rushes and tornadoes visited the northern part of Iowa, extreme southeast Minnesota, and west-central Wisconsin. It is very rare that destructive storms visit this region later than July; for example, the tornado at Grinnell, Iowa, occurred on June 17, 1882, and the one last year at Pomeroy was on July 6. On September 21, fortunately, no large town was struck, but the aggregate of deaths nearly equaled that at Pomeroy.

The conditions of the general storm, at 8 p. m., gave no inkling of the destruction so soon to be wrought. There were no maximum wind velocities reported from this region. The center of the general storm was very nearly over Sioux City, Iowa, at 8 p. m., and the next morning it was just east or southeast of Marquette, Mich.; its rate of motion was about 44 miles per hour, and its trajectory was about 100 miles to the northwest of the principal violent storms in Iowa. The maximum temperature on this day, at Sioux City, was 80°, and at La Crosse, 76°, which was not at all abnormal. On the day previous there had been thunderstorms and hail at several points in Iowa and Missouri. These showed an electric disturbance in this region, but of no marked severity.

On the 21st the first signs of violence were noted at Le Mars and Seney, in Plymouth Co., Iowa, at about 7 p. m. A little later Lincoln and Riverton townships, in Clay Co., were visited. A great many towns were struck in a line from this point to the northeast point of Iowa and the southeast corner of Minnesota. There seemed to be two lines of destruction, as follows:

Track I, Ruthven, 7.30; Emmetsburg, 7.30; Cylinder, 8; Whittemore and Algona, 8.15; Wesley, 8.30; Britt, 8.30; Ellington and Hayfield, 9; Concord and Mason City, 9.20; Osage, 10; New Haven, 10.20; Lowther, Elms, Cresco, and Burroak, 11—all in Iowa. This was the best traced line and seemed to show a velocity of 43 miles per hour. It will be noted that this coincides almost exactly with the velocity of the general storm.

Track II passed through the following points: Fenton, 8.30; Burt, 8.00; Forest City, 9.30; Fertile, 9.30; St. Ansgar, 10—all in Iowa. Le Roy, 10; Spring Valley, 10.10; Chatfield, and Laird, 10.30; Eyota, 10.30; Homer, 11—all in Minnesota; Marshland, Wis. This storm turned in its course at Fertile, and moved in an east-northeast direction, at first turning northeast between Le Roy and Spring Valley.

Track III was nearly parallel to II, and struck York and Greenleafton, the later town at 11 p. m.

Track IV passed through Waseca, Otisco, Dodge Center, and Beaver, 9.30 p. m.—all in Minnesota.

There were also destructive storms at Richland Center at 11.30, and Marshall between midnight and 1 a. m., of the 22d.

The characteristics of these storms were the same as have been noted repeatedly before. The earlier tracks lay more to the north and northwest, and as the night wore on the later ones lay further east. The general direction of all the paths was toward the east, or a little north of east.

Fifty-three lives were lost in Iowa and 5 in Minnesota. The earlier reports were very much exaggerated, thus, 50 killed in Winnebago County, 100 in Iowa, etc. The above estimate of 53 is a careful one, and is probably true within 3 or 4.

Losses to buildings were approximately as follows: In Iowa, Cerro Gordo County, $3,000; Hancock County, $40,000; Kossuth County, $30,000 to $50,000; Emmetsburg, $7,000 to $9,000; Fertile, $1,000; New Haven, $2,700; Osage, $9,000; Ruthven, $1,100; St. Ansgar, $15,000; Thompson, $3,500. In Minnesota: Eyota, $2,000; Greenleafton, $1,000; Homer, $2,000; Hutton, $700; Laird, $2,000 to $4,000; Le Roy, $120,000; Spring Valley, $59,875. Richland Center, Wis., $4,000. This makes the total estimated and reported loss as $312,000; the whole loss was probably less than $350,000.

Rather full descriptions of these violent storms have been received from 27 stations. Sixteen towns report a funnel cloud, in one place 3 were seen Twenty-six report lightning in this storm; 16 of them describe it as violent, vivid, sharp, incessant, etc.; 12 report a whirl, 8 counter-clockwise, 2 clockwise.

Sixteen reports mention the distribution of débris, and all describe this as carried with the storm or turned inward toward the track. Three indicate that on the north side objects were carried to northeast and west. One states that the first fall of trees on north side was toward the west and then others were piled on top toward the east. Eight report a glow, or white appearance in cloud; one observer says it looked like a cone of steam; another likens it to a "pillar of fire;" two report that it was very black. Eight state that there were two clouds that came together to the west of the town.

In one place 35 persons were injured, and all these stated

that it seemed as though thousands of needles were pricking them as the storm passed. It should be noted that as these storms occurred after dark, there was a very favorable opportunity for observing lightning, but not for noting other phenomena of these violent storms. Several spoke of observing the funnel cloud by the light of the vivid flashes of lightning.

INLAND NAVIGATION.

STAGE OF WATER IN RIVERS.

The following table shows the danger point and the highest and lowest stages for the month of September, 1894:

Heights of rivers above low-water mark, September, 1894.

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Height.	Date.	Height.	Date.	
Red River.	*Feet.*	*Feet.*		*Feet.*		*Feet.*
Shreveport, La	29.2	— 2.5	1, 29	— 3.7	10	1.2
Arkansas River.						
Fort Smith, Ark	22.0	11.3	16	0.7	1	10.6
Little Rock, Ark	23.0	9.8	18	2.9	3, 4	6.9
Missouri River.						
Bismarck, N. Dak	75.0					
Pierre, S. Dak.*	13.0	2.2	1	1.8	21, 22	0.4
Sioux City, Iowa	18.7	7.7	1	6.1	28, 29	1.6
Omaha, Nebr	18.0	8.2	1	6.6	30	1.6
Kansas City, Mo	21.0	9.7	3	6.7	29, 30	3.0
Mississippi River.						
St. Paul, Minn	14.0	1.9	16–18	1.4	2	0.5
La Crosse, Wis	10.0	1.3	23–27	0.9	5, 6, 14–19	0.4
Dubuque, Iowa	16.0					
Davenport, Iowa	15.0	1.6	11, 12	0.1	1–7	0.5
Keokuk, Iowa	14.0	1.9	24	— 0.7	1–3	2.6
Hannibal, Mo	17.0	2.6	25	— 0.2	1–3	2.8
St. Louis, Mo	30.0	6.1	18	3.4	3, 4	2.7
Cairo, Ill	40.0	6.4	21	5.1	5	1.3
Memphis, Tenn	33.0	1.9	1	1.0	8, 9	0.9
Vicksburg, Miss	41.0	2.2	28, 29	—0.2	14	2.4
New Orleans, La	13.0	4.2	20, 21	3.0	1, 2	1.2
Ohio River.						
Parkersburg, W. Va	38.0	12.4	23	0.3	10, 11	12.1
Cincinnati, Ohio	45.0	13.0	27	3.1	14, 15	9.9
Louisville, Ky	24.0	6.7	29	2.6	18–20	4.1

Heights of rivers—Continued.

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Height.	Date.	Height.	Date.	
Cumberland River.	*Feet.*	*Feet.*		*Feet.*		*Feet.*
Nashville, Tenn	40.0	1.7	18, 20	0.4	28–30	1.3
Tennessee River.						
Chattanooga, Tenn	33.0	4.0	1	0.8	30	3.2
Knoxville, Tenn	29.0					
Monongahela River.						
Pittsburg, Pa	22.0	10.6	21	2.0	28	8.6
Savannah River.						
Augusta, Ga	32.6	13.7	19	5.0	13	8.7
Willamette River.						
Portland, Oregon	15.0	6.3	2	2.2	24	4.1
Susquehanna River.						
Harrisburg, Pa	17.0					
Alabama River.						
Montgomery, Ala	48.0	4.7	22	0.0	7	4.7
James River.						
Lynchburg, Va	18.0	1.5	1, 30	—0.2	13–18	1.7
Sacramento River.						
Red Bluff, Cal	22.0	1.2	30	0.6	23–25	0.6
Sacramento, Cal	25.0	8.2	1, 2	7.5	13–30	0.7
Des Moines River.						
Des Moines, Iowa	19.0	4.0	9	2.8	10, 11, 14–19, 26–28.	1.2

*Record for 22 days.

The above table shows that no floods occurred during the month in the rivers therein tabulated. In most cases the rivers were unusually low.

ATMOSPHERIC ELECTRICITY.

GENERAL STATISTICS.

The table showing in detail for September, 1894, the statistics relative to auroras and thunderstorms is placed among the meteorological tables as No. XI, instead of being given in the text as heretofore. It shows the number of stations from which meteorological reports were received, and the number of such stations reporting thunderstorms (T) and auroras (A) in each State and on each day of the month. It is not certain that all the meteorological stations are equally faithful in reporting thunderstorms and auroras, and it is therefore necessary for the student to guard against the assumption that the frequency of these phenomena varies with the number of the reports. Even if the number of reports be divided by the number of stations in each State, the percentages of frequency thus obtained are liable to a similar uncertainty, and therefore for the present such percentages are omitted.

In comparing the relative frequency of thunderstorms or auroras in different portions of the globe and at different seasons of the year it is customary, and, in fact, imperative, to ignore the number of stations and the number of reports as such and to consider only the number of days on which the phenomena occur. In such studies, therefore, the number of stations is of importance principally as an indication of the probability that all of the thunderstorms and auroras have been recorded. Even from this point of view, however, it is necessary to know not merely the number of stations, but their geographical distribution within each State as an assurance against overlooking any very local phenomena that might have occurred only in the regions where no observer was at hand. Owing to the want of space in Table XI, the publication of the necessary data here referred to will be delayed until the annual summary.

THUNDERSTORMS.

A mention of the more severe thunderstorms reported during the month is given under "Local storms." The dates on which reports of thunderstorms were most numerous were: 8th, 181; 10th, 171; 5th, 138; 9th, 134; 14th, 121; 7th, 106.

The States where thunderstorm reports were most numerous were: Missouri, Pennsylvania, Ohio, Iowa, Kansas, Florida, and Illinois.

The States where the dates of thunderstorms were most frequent were: Florida, where they were recorded on 23 days; Missouri, on 22 days; Kansas and Michigan, on 20 days.

DAMAGE BY LIGHTNING.

The following statistics of the damage done by lightning in September, so far as reported by the observers of this Bureau, are furnished by Mr. Alexander McAdie:

During September, 1894, 29 persons were killed and 14 severely injured; 56 barns were struck, with a loss of not less than $141,350; 42 dwelling houses were struck and a number of churches, several schoolhouses, 1 armory, and 1 railroad depot.

AURORAS.

The evenings on which bright moonlight must have interfered with observations of faint auroras are assumed to be the four days preceding and following the date of full moon, viz, from the 10th to the 18th, inclusive. On the remaining twenty-one days of the month 243 reports were received, or an average of 12 per day. The dates on which the reported number especially exceeded this average were the 27th, 73;

14th, 43; 19th, 27. The States from which auroras were reported by a large percentage of observers were: North Dakota, Minnesota, and Wisconsin.

The States where the dates of auroras were most frequent were: Minnesota, 14; North Dakota, 12; Wisconsin, 10.

CANADIAN DATA—THUNDERSTORMS AND AURORAS.

Thunderstorms were reported as follows: 1st, Swift Current and Qu'Appelle, Assin. 2d, Minnedosa, Man.; White River, Parry Sound and Toronto, Ont. 3d, Qu'Appelle, Assin., and Quebec, Que. 4–5th, Toronto, Ont. 5th, Winnipeg, Man. 6th, Minnedosa and Winnipeg, Man.; Halifax, N. S.; and Grand Manan, N. B. 7th, Port Stanley, Ont. 8th, Edmonton, Alberta, Port Stanley and Toronto, Ont., and Montreal, Que. 10th, Toronto and Kingston, Ont. 13th, Minnedosa, Man., and Toronto, Ont. 15th, Minnedosa, Man.; Parry Sound and Toronto, Ont. 20th, Montreal and Quebec, Que. 23d, Parry Sound, Ont., and Father Point, Que. 26th, Minnedosa, Man. 30th, Minnedosa, Man., and Toronto, Ont.

Auroras were reported as follows: 2d, Father Point, Que. 2d, Minnedosa, Man. 5th, White River, Ont. 10th, Prince Albert, Sask.; Medicine Hat, Assin., and Minnedosa, Man. 11th, Port Arthur, Ont., and Quebec, Que. 12th, Minnedosa, Man. 14th, Saugeen, Parry Sound, and Port Stanley, Ont., and Halifax, N. S. 15th, White River and Toronto, Ont. 18th, Medicine Hat, Assin. 21st, Kingston, Ont., and Halifax, N. S. 22d and 25th, Father Point and Quebec, Que. 26th, Quebec, Que. 27th, Toronto, Ont., and Montreal and Quebec, Que. 29th, Medicine Hat, Assin. 30th, Father Point, Que.

STATE WEATHER SERVICES.

A tabular summary of the more prominent climatological features of each State and Territory, as given in the reports for September by the directors of the respective State Weather Services, is presented in Table XII. This table gives for the whole area of any State: (*a*) the average departure from the normal values of the current monthly mean temperatures and total precipitations; (*b*) the maximum and minimum temperatures and precipitations; (*c*) the greatest and least monthly ranges of temperature occurring anywhere within the State. This table is essentially a summary of Table II, and therefore presents a somewhat different study of meteorological conditions from that given in Table I, which is based on regular Weather Bureau stations arranged in so-called climatic districts.

The following extracts are taken from the reviews published by the respective services; occasional notes in brackets are added by the Editor:

California.—The observer at Los Alamos notes that the rainfall of 1.81 inch means a great deal to the stock men of the valley, but will ruin more or less of the bean crop. At several stations in California snow was observed on the Sierra Nevada Mountains on the 29th and 30th, being the earliest known for many years. In southern California the rain and snow of the 29th and 30th was unprecedented and caused much injury to hay, grape, and other crops.

Florida.—The greater part of the remarkably heavy rainfall in eastern Florida fell on the 22d–26th, inclusive, during the progress of the West Indian hurricane; there was a deficiency of rainfall in the western portion of the State; considerable damage was done to the orange and other crops, both by the rain and the wind.

Indiana.—The weather conditions, especially the rain, were more favorable to crops, pasturage, and farm work than in the preceding months. Corn matured rapidly, pasturage turned fresh and green again. At Vevay the Ohio River reached the lowest stage on record. The general reports indicate excellent crops.

Iowa.—The weather was generally very favorable for farm work and the maturing of crops. The tornadoes and thunderstorms of the 20th and 21st, with severe hail, were the most destructive of this year in the West. [A full account of these is given in the Iowa Monthly Review and a condensed account by Professor Hazen will be found in the present publication.] The drought of August was broken by the general rain of the 26th, but at the close of the month the wells, streams, and springs continued to be very low or dry, showing that the subsoil was not yet saturated. The smoky condition of the atmosphere continued from August until the 3d of September. [The Iowa Review gives a list of severe or so-called historical droughts in the Middle States since 1634. A similar list, but differing in details, has been published in some New England papers. Any observer who can give additions or corrections to these lists will confer a favor by communicating with the Chief of the Weather Bureau.]

Maryland.—The drought of August was broken by the general rain beginning on the 5th and 6th and closing on the 9th, in consequence of which all agricultural conditions were greatly improved.

Michigan.—The corn crop was badly injured by the drought; it was generally cut between the 1st and 20th; it ripened early with a small yield of grain which was of good quality and a rather small yield of fodder. Very little of it was injured by the frost of the latter part of the month. The observer in St. Clair County reports only one rain during July, August, and September.

Minnesota.—Forest fires on the 1st and 2d in the east-central portion of the State killed over 400 people. These fires continued throughout the greater portion of the month, spreading into the meadows, where they burned the hay and grain, and the atmosphere over the State continued very smoky. Light rains occurred at many isolated localities, and finally a general rain on the 13th and 14th relieved the drought. Harvest work progressed satisfactorily; the yields of small grain were better than expected. [The great drought is generally spoken of as having lasted four months, viz, from May 15 to September 14, but this is not to be understood as meaning that no rain fell during this interval.]

Mississippi.—The monthly report states that this has been a seasonable month and highly satisfactory from an agricultural point of view.

Missouri.—The weather conditions were especially favorable to the farmer. The severe drought of July and August was broken by rain in the early part of the month.

Nebraska.—The weather continued warm and dry during the month and without great extremes of temperature, as compared with previous years.

Nevada.—Temperature much above the normal, averaging 3° for the State, and accompanied by numerous killing frosts. Precipitation was also below the normal, but the snowfall was unusual as to amount and extent.

New England.—The average temperature for 21 stations shows the month to have been about 2° warmer than the normal, but Eastport, Me., gives a local deficit of 3.6. General frosts occurred on two occasions. The drought of the summer was broken by heavy rain on the 10th in the central districts, and by a general rain on the 19th and 20th, but springs and wells still remain low. Smoke prevailed during the first ten days of the month and was so thick on the afternoon of the 2d that the sun could be looked at with the naked eye.

North Dakota.—The month was about the average in every respect. A remarkable electric display occurred on the night of the 6th in connection with the storm.

Ohio.—The weather was very favorable for the plowing and seeding of wheat and barley. The drought was generally broken about the middle of the month.

Oklahoma.—No unusual meteorological conditions, except hot winds on the 7th and 8th over the western half of the Territory; the maximum temperatures were 109 to 107 at Anadarko and other stations on the 7th.

Pennsylvania.—The drought damaged the crops in all parts of the State, but was broken by general rains on the 8th.

South Carolina.—The heavy wind and rain of the 26–28th beat standing crops to the ground; about 10 per cent of the cotton, rice, and peas that were still in the field were seriously damaged.

South Dakota.—The weather was generally favorable for late haying.

Tennessee.—Dry and warm weather and an abnormal amount of sunshine characterized this month; this was favorable for saving matured crops, but was injurious to late crops and retarded the preparation of the land for fall seeding.

Washington.—This was the coolest and wettest September in the last five years. On the whole the month was favorable to agriculture; the grain crops were nearly all gathered; the hop crop not as good as might have been desired.

OBSERVATIONS ON THE GREAT LAKES.

REPORTS FROM U. S. LIFE-SAVING STATIONS.

Through the co-operation of the General Superintendent of the Life-Saving Service and the Secretary of the Treasury, the Weather Bureau has received monthly reports for the month of September from the keepers of 40 U. S. Life-Saving Stations on the Great Lakes.

REPORTS FROM VESSELS.

The Lake Marine Section of the Forecast Division has received 68 reports from vessels navigating the Great Lakes.

SUNSHINE AND CLOUDINESS.

GENERAL REMARKS.

The quantity of sunshine, and therefore of heat, received by the atmosphere is a fundamental factor in meteorology; the quantity received by the atmosphere as a whole is very nearly constant from year to year, but the proportion received by the surface of the earth depends largely upon the absorption by the atmosphere and varies with the distribution of cloudiness. The sunshine is now recorded automatically at about 39 regular stations of the Weather Bureau, either by its photographic or its thermal effects. The cloudiness is recorded by personal observations at all stations and is given in the column of "average cloudiness" in Table I.

SUNSHINE.

An instrumental record of sunshine has been kept during the month at 18 stations by means of the photographic sunshine recorder and at 21 stations by means of the thermometric sunshine recorder; the results of these observations are given in Table IV, for each hour of local mean time (not seventy-fifth meridian time). The stations recording the largest percentages of sunshine between the hours of 11 a. m. and 1 p. m. were: Tucson and San Francisco, 94; New Orleans and Vicksburg, 92.5; Detroit, 92; St. Louis, 89. The stations having the least percentage between these hours were: Portland, Oreg., 49; Savannah, 51; Spokane, 55; Rochester, 57.5; Eastport, 58; Baltimore, 60; Wilmington, 61; Bismarck, 66.5.

The general average percentage for the whole month is given in the next to the last column of Table IV. The highest percentages were: Tucson, 89; Santa Fe, 82; New Orleans and Salt Lake City, 80. The lowest percentages were: Eastport, Portland, Oreg., and Rochester, 44; Wilmington, 47; Savannah, 53.

CLEAR SKY.

The average cloudiness between sunrise and sunset, as based on numerous personal observations, is given for each Weather Bureau station in Table I; the complement of this average cloudiness gives the observer's estimated percentage of clear sky and these latter numbers are given in the last column of Table IV.

COMPARISON OF SUNSHINE AND CLEAR SKY.

The sunshine registers give the duration of direct sunshine whence the percentage of possible sunshine is derived; the observer's personal estimates give the percentage of area of clear sky. It should not be assumed that these numbers should agree, and for comparative purposes they have been brought together, side by side, in the following table, from which it appears that, in general, the instrumental record of percentages of duration of sunshine is almost always larger than the observer's personal estimates of percentages of area of clear sky; the average excess for this month is 8 per cent for photographic records and 11 per cent for thermometric records:

Difference between instrumental and personal observations of sunshine.

Photographic stations.	Instrumental.	Personal.	Difference.	Thermometric stations.	Instrumental.	Personal.	Difference.
Tucson, Ariz	89	75	14	New Orleans, La	80	79	1
Santa Fe, N. Mex.	82	77	5	Salt Lake City, Utah	80	70	10
San Francisco, Cal	77	79	— 2	Colorado Springs, Colo.	78	69	9
Denver, Colo	76	63	13	St. Louis, Mo.	76	65	11
Dodge City, Kans	76	68	8	Vicksburg, Miss	76	74	2
Cincinnati, Ohio	74	58	16	Detroit, Mich	75	62	13
Kansas City, Mo	70	56	14	Key West, Fla	73	42	31
Cleveland, Ohio	66	57	9	Chicago, Ill.	70	60	10
Galveston, Tex.	64	64	0	Columbus, Ohio	70	60	10
Memphis, Tenn	64	64	0	Louisville, Ky	64	46	18
San Diego, Cal	64	54	10	Little Rock, Ark	63	49	14
Bismarck, N. Dak	63	63	0	Buffalo, N. Y	60	41	19
Helena, Mont.	62	51	11	Philadelphia, Pa	60	41	19
Washington, D. C	59	53	6	New York, N. Y	59	45	14
Spokane, Wash.	57	35	22	Boston, Mass.	58	42	16
Savannah, Ga.	53	47	6	Baltimore, Md	57	46	11
Eastport, Me	44	35	9	Portland, Me	54	37	17
Portland, Oreg	44	38	6	Wilmington, N. C.	47	51	— 4
				Rochester, N. Y	44	56	—12
				Des Moines, Iowa	.....	64	.....
				New Haven, Conn	.....	46	.....

NOTES BY THE EDITOR.

STUDIES ON HURRICANE WINDS AND HIGH WATERS.

The phenomena attending the high water at Charleston, S. C., during the hurricane of September 26, are presented graphically on Chart VI of this REVIEW, as prepared by Gen. E. P. Alexander, of South Island. It will be seen that the records of the self-registering tide gauge show that on the morning of the 25th, and at the close of the 27th, when the winds did not exceed 25 miles per hour, the normal tide and the actual stage of the water agreed closely, but that on the 25th, at noon, when the northeast winds were 24 miles, the water began to rise above its normal height, reaching a maximum at 6.30 p. m. of the 26th, when it was 4.7 feet above the normal, after which it diminished until, on the 27th, at 7 p. m., when the wind was west or northwest, 20 miles, the water had again returned to its normal condition. If we make allowance for the normal tide it will be found that, owing to the retardation in the movement of the water, the excess of the actual above the normal was a minimum, viz, 1.4 feet from 1 to 3 p. m. of the 26th, after which it increased to 2.0 feet at 5 p. m.; 5.0 at 7 p. m.; 5.1 at 8 p. m.; 4.9 at 9 p. m.; 4.7 at 10 p. m.; 5.0 at 11 and 12 p. m., at which time the central lowest pressure passed over Charleston, and the east wind diminished rapidly before shifting to southwest.

DISTANT STORMS INDICATED BY TIDES AT NEW YORK.

Capt. Edmund Jones who, for many years, kept logs of deep water voyages for Lieut. Maury, and who now lives at Cold Spring Harbor, Suffolk Co., N. Y., states that in connection with a cyclonic storm experienced by the steamship *Italia*, on September 8, in N. 42° 30′, W. 41° 05′, he made the following observations:

On September 4, I was on the flats at Cold Spring Harbor and noticed that at low water the tide did not fall near as low as it had for several previous days. On September 5, the low tide was at least two feet higher than it should be under ordinary conditions, and I at once came to the conclusion that a cyclone was approaching, as I had noticed before that under these conditions such storms are very certain to make their appearance. On September 6, 7, 8, 9, 10, and 11, there were from three to two feet more water than usual, but during the next two or three days the tide assumed its normal condition. Often during the past fifteen years I have noticed that this abnormal condition is an infallible indication of a storm approaching or passing by. A storm directly in from seaward generally affects the flood tide even more than a low water tide, but in the present case the high water was about normal. A long experience gives me great confidence in the barometer as affording valuable prognostication of a storm, but this tidal wave along the coast preceding a cyclone must, as it seems to me, give absolute proof that some kind of storm is in progress; the astonishing thing is that the ocean level is affected by the cyclone at such a great distance, and especially ahead of it. A careful record of the tide would be of great value during six months of the year.

NORMAL ANNUAL SNOWFALL.

The normal annual snowfall, as resulting from ten years of observations at regular stations, will be given in tabular form in the Report of the Chief of the Weather Bureau. These numbers are reproduced graphically, as far as practicable, on the accompanying Chart V. Each figure may be considered as representing the normal total snowfall in inches from July 1 to the succeeding June 30. The variation of any one year from these figures is an important element in the irregularities of climate and, therefore, the corresponding data for the past year, viz, from July 1, 1893, to June 30, 1894, are also shown upon this map immediately below the normal figures.

The study of the distribution of snow and its apparent dependence upon the intrusion of cold dry air into a region of moist warm air must precede any attempt to specify the meteorological and topographical conditions that prevailed during the so-called glacial epoch of geology. During that epoch snow accumulated to great depths (as now in Greenland), but this accumulation must have been due to the preservation of the snow after it had fallen rather than to any remarkably heavy snowfall. Such glaciation was probably brought about entirely by gradual and great orographic changes in the continents with the consequent changes in the distribution of the oceans, both of which conspire to greatly change the climate.

OBSERVATIONS AT HONOLULU, HAWAIIAN ISLANDS.

As the weather on the Pacific coast depends so largely upon the conditions of the atmosphere to the westward, it is considered important to publish in full and as soon as practicable the data furnished by observers in Alaska, the Hawaiian Islands, and adjacent regions.

Meteorological observations at Honolulu, Republic of Hawaii, July 18 to 31, inclusive, 1894, by Curtis J. Lyons, Meteorologist to the Government Survey.

Date.	Barometer at sea level. 9 a. m.	3 p. m.	9 p. m.	Temperature. 6 a. m.	2 p. m.	9 p. m.	Minimum.	Maximum.	Humidity. Relative. 9 a.m.	9 p.m.	Absolute.	Wind. Direction.	Force.	Cirrus cloud moving from—	Rain measured at 6 a. m.
	Ins.	*Ins.*	*Ins.*	°	°	°	°	°	%	%					*Ins.*
18..	30.12	30.06	30.14	73	81	75	73	83	55	70	6.4	ne.	5	.....	0.04
19..	30.16	30.08	30.15	74	79	75	73	83	64	66	6.6	ne.	4-1	.....	0.00
20..	30.12	30.08	30.14	72	79	75	71	81	64	73	6.5	nne.	5	.....	0.00
21..	30.13	30.06	30.12	74	79	74	72	81	67	75	6.3	ne.	4	.....	0.03
22..	30.10	29.97	30.11	72	77	74	68	79	74	72	6.9	ene.	2-4	.....	0.10
23..	30.08	30.04	30.10	74	81	75	71	84	62	66	6.4	ne.	5	.....	0.03
24..	30.14	30.09	30.11	72	79	74	68	81	65	65	6.3	ne.	4	.....	0.10
25..	30.15	30.11	30.15	73	80	75	71	83	57	66	6.1	ne.	4	.....	0.00
26..	30.16	30.09	30.14	73	81	75	70	83	62	66	6.4	ne.	4	.....	0.04
27..	30.13	30.06	30.09	72	81	76	71	83	65	66	6.7	nne.	4	.....	0.02
28..	30.10	30.05	30.12	73	81	75	71	83	64	72	6.8	ne.	3	.....	0.02
29..	30.12	30.07	30.12	72	80	76	71	83	62	67	6.6	ne.	3	.....	0.05
30..	30.11	30.04	30.10	71	83	75	68	84	62	68	6.5	ne.	3	.....	0.01
31..	30.09	30.03	30.08	68	81	74	65	85	67	72	6.4	ne.	3	.....	0.01
	30.133	30.076	30.128	73.2	79.7	74.3	70.7	82.3	64.5	70.0	6.5				1.14

Pressure, 30.104, or 0.05 above normal.
Temperature, 75.7°, or 2° below normal.
Rainfall, one-half of the normal.
Relative humidity, 4 per cent lower than normal.
Disturbance periods, as per general rain and surf records, 4th, 12th, 20th, and 28th.
The barometer is corrected for temperature and reduced to sea level, but the gravity correction, —0.05, is still to be applied.
The absolute humidity is expressed in grains of water, per cubic foot, and is the average of four observations daily.
The rain is measured at 6 a. m., daily.
The extremes of the force of the wind are given when it has varied more than usual.

METEOROLOGICAL TABLES.

[Prepared by the Division of Records and Meteorological Data.]

The following pages present in tabular form the climatological data for the current month, on which the text of the preceding part of this REVIEW has, to a large extent, been based.

For a detailed description of the methods of observation, compilation, and computation relating to these tables, the reader is referred to page 129 of the MONTHLY WEATHER REVIEW for March, 1894. The general contents of the tables are as follows:

Table I gives for 140 Weather Bureau stations, making two observations daily, and for 10 others making only one observation, the ordinary climatological data.

Table II gives for about 2,200 stations, occupied by voluntary observers, the mean and extreme temperatures and the total precipitation.

Table III gives climatological data for about 30 Canadian stations.

Table IV *a* gives for 39 Weather Bureau stations the percentages of sunshine for each hour of local mean time.

Table IV *b* gives for 43 Weather Bureau stations the total hourly rainfall for each hour of seventy-fifth meridian time.

Table V gives for 81 stations the mean temperatures for each hour of seventy-fifth meridian time.

Table VI gives for 66 stations the mean pressures for each hour of seventy-fifth meridian time.

Table VII gives for 138 stations the mean hourly movement of the wind.

Table VIII gives for 68 stations the resultant movements and directions of the wind from continuous registrations.

Table IX gives for 140 stations the component and resultant directions of the wind based on simultaneous observations at 8 a. m. and 8 p. m., seventy-fifth meridian time.

Table X *a* gives for 47 voluntary stations the normals and current departures of mean monthly temperatures.

Table X *b* gives for the same stations the similar data as to precipitation.

Table XI gives for each day of the month the number of thunderstorms (T), and of auroras (A), reported by all the observers of each State.

Table XII gives the principal climatic features of the month as reported by each State weather service.

TABLE I.—*Climatological data for Weather Bureau Stations, September*, 1894.

Districts and stations.	Elevation above sea-level, feet.	Length of record, years.	Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.								Humidity and precipitation.				Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Mean temperature data since opening of station.			
			Mean pressure, 8 a. m. and 8 p. m. ÷ 2.	Mean reduced.	Departure from normal.	Mean max. and min. ÷ 2.	Departure from normal.	Maximum.	Date.	Mean minimum.	Minimum.	Date.	Mean monthly range.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.				Highest for month.	Year.	Lowest for month.	Year.
New England.						63.5	+ 2.4									2.50	— 0.9													
Eastport	76	22	30.02	30.11	+ .08	56.7	+ 1.5	78	5	63	40	26	50	26	49	80	1.46	— 2.1	10	6,126	sw.	36	e.	20	5	14	11	6.5	58.4	1891	53.4	1875
Portland	103	23	29.98	30.08	+ .03	60.3	+ 2.6	88	5	67	38	27	53	25	53	82	2.76	— 0.5	11	4,324	s.	28	se.	20	7	10	13	6.3	64.2	1881	55.8	*
Northfield	872	8	29.19	30.12	+ .03	59.0	+ 2.9	85	4	70	25	26	48	38	53	88	2.99	— 0.2	9	5,067	s.	36	sw.	23	10	8	12	5.5	60.6	1891	51.8	1893
Boston	125	24	29.99	30.12	+ .05	64.8	+ 2.7	88	9	72	42	26	58	24	56	78	2.14	— 1.0	6	6,640	sw.	32	ne.	30	11	8	11	5.8	66.7	1891	59.3	*
Nantucket	14	8	30.11	30.12	+ .03	65.0	+ 2.1	79	22	70	51	*	60	18	59	83	1.90	— 2.9	8	7,264	w.	42	se.	30	9	12	12	5.6	65.4	1891	59.8	1893
Woods Holl	.....	17	.....	.....	.....	65.5	+ 2.1	77	22	70	48	26	60	14	.....	.....	2.24	— 0.3	8	8,655	sw.	34	nw.	24	11	10	9	5.2	65.8	1891	60.0	1888
Vineyard Haven	.....	8	.....	.....	.....	67.0	+ 2.6	84	10	73	52	26	61	24	.....	.....	3.00	— 1.6	7	.....	sw.	.....	.....	.....	7	12	11	....	67.9	1891	61.1	1888
Block Island	27	15	30.10	30.13	+ .05	65.0	+ 2.3	76	7	70	50	26	60	20	60	86	2.03	— 1.2	9	10,648	sw.	60	ne.	30	7	16	7	5.8	66.8	1881	60.8	1888
Narragansett Pier	.....	13	.....	.....	.....	64.4	+ 2.2	79	*	71	43	26	57	27	.....	.....	2.40	— 0.2	7	.....	sw.	.....	.....	.....	7	12	11	....	67.3	1891	58.6	1893
New Haven	107	22	29.98	30.10	+ .01	65.6	+ 3.2	85	10	74	40	26	57	28	60	86	4.63	+ 0.7	11	5,350	sw.	34	ne.	30	11	10	9	5.4	69.6	1881	59.7	1887
New London	45	24	30.09	30.14	+ .06	65.2	+ 2.3	82	9	72	43	26	58	24	60	86	2.59	— 1.0	10	4,966	sw.	33	ne.	19	12	10	8	5.0	68.3	1881	58.4	1871
Mid. Atlantic States.						70.7	+ 3.2									4.36	+ 0.8													
Albany	85	21	30.02	30.11	+ .04	66.8	+ 3.9	89	9	76	38	26	58	29	56	78	4.18	+ 0.5	11	4,155	s.	32	s.	23	12	12	6	4.7	70.9	1881	58.5	1875
New York, N. Y	185	24	29.92	30.11	+ .02	69.8	+ 3.6	94	10	77	46	26	63	22	60	78	8.04	+ 4.1	11	6,847	ne.	36	sw.	10	11	8	11	5.5	72.2	1881	60.8	1871
Harrisburg	377	7	29.71	30.11	.....	68.2	+ 3.8	88	10	76	40	26	61	28	61	84	5.53	+ 1.0	9	4,013	e.	35	w.	10	11	8	11	5.7	69.4	1891	61.6	1888
Philadelphia	117	24	29.99	30.11	+ .01	70.0	+ 2.4	91	10	77	44	26	63	21	61	79	5.11	+ 1.7	8	6,967	sw.	37	nw.	10	10	6	14	5.9	74.8	1881	62.6	1871
Atlantic City	53	21	30.05	30.10	+ .02	69.2	+ 3.0	80	10	74	50	26	65	17	64	84	3.96	+ 0.5	12	8,703	sw.	46	ne.	30	7	7	16	6.6	72.6	1881	60.2	1888
New Brunswick	.....	.....	.....	.....	.....	69.1	.....	94	10	78	43	26	60	32	.....	.....	11.03	.....	12	.....	e.	.....	.....	.....	1	18	11	.....	.....	.....	.....	.....
Baltimore	179	24	29.91	30.10	.00	70.6	+ 2.4	94	10	78	45	26	63	27	60	76	4.75	+ 0.9	10	4,731	ne.	36	nw.	10	11	7	12	5.4	76.9	1881	63.4	1871
Washington, D. C.	112	24	29.99	30.11	.00	71.4	+ 4.0	95	10	80	47	26	63	30	61	77	1.53	— 2.4	9	4,066	ne.	27	nw.	10	14	7	9	4.7	77.0	1881	62.3	1871
Cape Henry	.....	21	.....	.....	.....	75.5	+ 3.1	96	10	83	60	25	68	28	.....	.....	4.88	0.0	6	.....	ne.	.....	.....	.....	8	16	.....	....	77.5	1881	68.6	1889
Lynchburg	685	24	29.39	30.11	+ .02	71.2	+ 2.3	93	8	80	49	26	62	36	62	79	4.16	+ 0.3	10	2,853	ne.	23	ne.	27	10	10	10	5.5	78.4	1881	62.1	1871
Norfolk	57	24	30.00	30.06	+ .03	74.4	+ 3.2	94	9	81	62	26	68	21	67	82	3.96	+ 0.5	12	8,703	sw.	46	ne.	30	7	7	16	6.6	72.6	1881	60.2	1888
S. Atlantic States.						75.8	+ 1.9									7.89	+ 2.6													
Charlotte	773	16	29.26	30.07	— .02	72.9	+ 2.5	93	10	82	53	26	64	28	62	77	5.60	+ 2.2	13	4,415	ne.	36	ne.	27	15	8	7	4.4	77.4	1881	68.0	1879
Hatteras	11	14	30.05	30.06	— .01	76.2	+ 2.7	85	10	80	67	26	72	12	70	84	7.73	+ 1.0	10	8,128	ne.	36	e.	27	14	6	10	5.3	78.7	1881	70.0	1887
Kittyhawk	9	19	30.03	30.04	— .01	75.4	+ 2.2	94	10	79	64	21	72	16	69	83	6.09	+ 1.9	8	10,707	ne.	60	ne.	27	17	3	10	4.1	77.4	1881	70.0	1879
Raleigh	388	8	29.67	30.08	— .03	73.0	+ 2.8	93	10	81	55	26	65	24	65	81	5.00	+ 1.3	13	4,139	n.	25	ne.	27	7	10	13	6.0	73.0	1804	67.3	1887
Southport	34	19	30.03	30.06	— .01	75.5	+ 1.6	87	10	82	62	*	69	20	70	82	9.54	+ 4.4	11	6,669	ne.	54	se.	27	12	11	4	4.1	77.8	1881	71.0	1887
Wilmington	78	24	29.97	30.05	— .02	75.9	+ 2.7	94	10	83	63	26	69	24	70	86	6.34	— 0.5	12	5,640	ne.	44	ne.	27	15	3	12	4.9	78.8	1881	70.1	1871
Charleston	52	24	29.99	30.04	— .02	77.6	+ 2.2	95	10	84	62	26	72	19	70	82	10.94	+ 4.8	9	6,398	ne.	49	ne.	26	4	21	5	5.4	80.7	1881	72.6	1871
Columbia	.....	8	.....	.....	.....	75.4	+ 1.6	96	11	84	53	27	66	28	.....	.....	5.18	+ 1.1	8	.....	nw.	.....	.....	.....	12	9	9	....	75.6	1893	71.6	1888
Augusta	209	23	29.86	30.09	+ .01	75.6	+ 0.2	93	9	84	55	26	67	28	66	78	5.26	+ 1.3	5	2,686	e.	20	n.	26	17	5	8	3.8	79.4	1881	72.9	1892
Savannah	98	24	29.94	30.04	— .02	77.2	+ 1.7	96	10	85	59	26	70	22	70	84	7.88	+ 1.8	14	5,959	ne.	48	ne.	26	9	11	10	5.3	80.0	1881	71.6	1871
Jacksonville	43	23	29.97	30.02	— .01	78.6	+ 0.9	96	10	87	62	27	71	23	70	82	16.63	+ 8.7	18	5,602	ne.	48	nw.	26	7	11	12	6.0	79.9	1881	76.1	1887
Florida Peninsula.						79.9	+ 0.2									15.67	+ 8.5													
Jupiter	28	7	29.96	29.98	.....	80.2[b]	+ 0.2	90[b]	20	85[b]	70[b]	24	75[b]	17[b]	75[b]	85[b]	13.65	+ 4.8	14	7,158	e.	50	ne.	25	11	8	11	5.7	80.2	1894	79.0	*
Key West	22	24	29.95	29.97	— .02	81.4	— 0.6	89	30	86	71	2	76	17	73	77	17.29	+ 9.9	16	6,809	e.	87	sw.	25	6	15	9	5.8	84.5	1877	80.3	1890
Tampa	36	15	29.96	30.00	.....	79.1	— 0.2	93	10	87	65	26	72	24	72	86	17.28	+11.9	18	4,812	ne.	43	ne.	25	9	11	10	5.6	80.7	1881	77.2	1888
Titusville	44	8	29.96	30.00	.....	78.8	— 0.2	91	10	85	65	27	73	18	73	85	14.46	+ 7.3	15	9,101	se.	66	ne.	25	12	12	2	4.6	79.4	1889	77.8	1887
Eastern Gulf States.						77.2	+ 1.3									3.13	— 1.3													
Atlanta	1,131	16	28.92	30.09	— .01	73.4	+ 1.9	88	10	82	56	20	65	22	63	76	5.78	+ 1.8	7	6,179	ne.	26	ne.	26	15	11	4	4.0	74.9	*	68.8	1888
Pensacola	56	15	29.94	30.00	— .03	78.5	+ 1.0	91	3	86	64	21	71	22	68	75	4.11	— 1.5	9	6,740	ne.	40	sw.	6	18	7	5	3.7	79.5	1884	75.3	1882
Mobile	57	24	29.97	30.03	.00	78.2	+ 1.3	91	4	86	61	28	70	25	69	83	4.37	— 0.7	11	5,100	n.	29	s.	7	14	12	4	4.2	79.3	1881	74.9	*
Montgomery	257	23	29.79	30.06	+ .01	77.4	+ 1.9	92	12	87	59	21	67	27	66	75	0.85	— 2.3	7	4,609	e.	24	nw.	11	14	13	3	4.1	79.0	1884	73.2	1880
Meridian	358	....	29.66	30.05	.....	74.4	.....	90	3	85	52	30	64	34	66	85	5.03	.....	7	3,160	ne.	24	n.	25	12	11	7	4.3	.....	.....	.....	.....
Vicksburg	254	24	29.78	30.04	— .01	75.9	+ 0.2	92	3	85	51	26	67	28	66	80	2.75	— 1.3	9	3,662	se.	26	sw.	9	21	6	3	2.6	79.7	1872	71.7	1880
New Orleans	54	24	29 90	30.02	+ .01	79.9	+ 1.7	90	1	87	66	26	73	19	69	74	0.92	— 4.0	7	4,782	ne.	28	se.	12	23	6	1	2.1	80.9	1884	73.6	1878
Port Eads	.....	....	30.01	.....	.....	80.4	.....	92	17	85	70	29	76	18	72	77	5.63	.....	13	7,518	ne.	36	nw.	8	6	15	9	6.1	.....	.....	.....	.....
Western Gulf States.						76.2	+ 0.9									3.46	— 1.2													
Shreveport	249	24	29.75	30.01	— .03	76.3	— 0.1	95	7	86	54	25	67	31	66	78	0.69	— 3.6	5	3,592	s.	16	ne.	24	14	6	10	5.1	80.2	1884	70.5	1880
Fort Smith	492	13	29.52	30.03	+ .01	72.2	— 0.2	98	8	82	50	30	62	33	63	77	3.96	+ 0.8	11	4,443	e.	30	n.	4	13	6	11	5.1	77.3	1884	69.8	1890
Little Rock	302	16	29.72	30.04	— .02	73.6	+ 0.2	93	8	82	53	26	65	29	64	81	2.43	— 1.0	5	3,825	s.	25	ne.	23	13	9	8	5.1	76.6	1884	68.8	1880
Corpus Christi	20	8	29.96	29.98	— .03	79.6	+ 1.1	92	7	85	67	19	74	20	74	86	3.00	— 4.1	8	7,930	se.	35	n.	17	8	10	12	5.6	81.1	1893	75.9	1889
Galveston	42	24	29.98	30.02	+ .02	80.0	+ 1.3	88	6	84	68	26	76	18	71	78	2.64	— 4.4	9	6,399	se.	33	ne.	17	19	5	6	3.6	83.5	1884	76.9	1875
Palestine	511	13	29.50	30.03	— .02	76.8	+ 1.4	95	6	86	56	26	67	29	68	84	10.04	+ 6.6	9	3,360	ne.	23	se.	23	10	12	8	5.0	79.6	1884	71.9	1889
San Antonio	679	16	29.31	30.02	+ .01	79.4	+ 2.7	95	10	89	61	12	70	24	64	64	1.45	— 2.7	6	4,027	se.	28	se.	23	11	15	4	4.6	81.8	1893	73.6	1889
Ohio Val. & Tenn.						71.8	+ 3.8									2.61	— 0.8													
Chattanooga	762	16	29.30	30.09	.00	73.8	+ 2.6	89	1	83	53	21	64	29	63	76	1.67	— 2.8	6	3,888	s.	27	nw.	17	8	16	6	5.3	74.6	1881	67.6	*
Knoxville	980	24	29.06	30.08	— .02	72.9	+ 3.0	90	7	82	51	21	63	30	61	74	0.47	— 2.7	5	3,205	ne.	24	sw.	10	14	9	7	4.5	74.1	1881	65.4	1875
Memphis	330	24	29.72	30.07	.00	74.7	+ 2.3	93	1	84	50	26	65	29	64	79	1.60	— 1.8	7	4,387	se.	26	nw.	10	16	7	7	3.6	76.9	1884	68.2	1871
Nashville	553	24	29.50	30.06	.00	73.1	+ 2.7	92	5	82	46	26	64	33	62	73	3.07	— 0.9	5	4,333	se.	30	nw.	10	12	12	6	4.8	75.6	1881	67.7	1880
Lexington	989	10	29.03	30.06	.....	71.0	+ 3.3	92	2	80	43	26	62	29	58	68	4.05	+ 1.6	6	6,833	s.	34	s.	23	8	13	9	5.3	71.7	1891	62.8	1888
Louisville	525	23	29.51	30.07	— .01	73.0	+ 3.6	96	2	83	44	26	63	34	60	72	2.64	— 0.3	7	4,799	s.	21	nw.	10	7	17	6	5.4	75.9	1881	64.0	1879
Indianapolis	766	24	29.25	30.06	— .01	69.8	+ 4.6	95	2	80	40	25	59	34	56	68	1.82	— 1.1	9	4,027	s.	36	se.	2	10	8	12	5.1	73.5	1881	61.7	1879
Cincinnati	628	24	29.41	30.07	.00	71.6	+ 3.4	91	7	80	44	25	63	28	58	68	2.46	+ 0.1	8	4,641	se.	35	nw.	17	14	10	6	4.2	76.1	1881	63.7	1879
Columbus	868	17	29.18	30.09	+ .03	69.1	+ 3.9	92	3	79	41	25	59	34	56	69	5.31	+ 2.5	8	5,508	e.	26	nw.	10	12	13	5	4.0	73.7	1881	61.3	1888
Pittsburg	820	24	29.22	30.09	+ .01	70.4	+ 4.2	92	3	79	43	26	61	35	57	70	3.68	+ 1.0	11	4,148	se.	27	w.	30	9	11	10	5.2	75.4	1881	59.3	1871
Parkersburg	638	7	29.42	30.10	.....	70.2	+ 4.4	96	7	81	41	25	60	33	61	77	1.08	— 1.2	10	2,956	se.	19	w.	30	12	13	5	4.3	70.2	1894	61.9	1888
Lower Lake Region.						66.4	+ 4.0									3.61	+ 0.5													
Buffalo	690	24	29.34	30.06	+ .01	65.4	+ 4.3	83	3	73	36	26	58	30	56	74	5.59	+ 2.2	12	6,805	sw.	50	w.	10	3	21	6	5.9	71.3	1881	57.5	1883
Oswego	335	24	29.70	30.06	.00	64.6	+ 3.9	86	4	72	38	26	57	25	55	75	3.45	+ 0.5	11	6,445	se.	30	nw.	24	13	9	8	4.3	70.3	1881	57.2	1893
Rochester	523	23	29.54	30.10	+ .05	66.0	+ 4.8	91	4	76	35	26	56	30	55	75	2.63	+ 0.2	11	4,674	sw.	36	sw.	10	13	8	9	4.4	71.2	1881	56.2	1871
Erie	714	22	29.31	30.06	.00	67.4	+ 4.5	90	15	76	36	27	59	35	57	75	5.48	+ 1.3	13	7,668	s.	31	se.	26	10	13	7	5.0	71.7	1881	58.8	1883
Cleveland	740	24	29.29	30.07	.00	67.0	+ 4.1	92	3	75	40	26	59	32	55	71	3.30	— 0.5	12	9,092	se.	46	w.	23	13	12	5	4.3	71.7	1881	59.5	1883
Sandusky	629	18	29.41	30.07	+ .01	67.6	+ 3.4	91	3	75	41	26	59	30	56	71	3.49	+ 0.4	12	5,353	sw.	32	nw.	8	6	20	4	5.2	72.5	1881	60.4	1879
Toledo	674	24	29.35	30.06	+ .01	66.8	+ 3.6	92	2	76	39	25	58	30	55	73	2.50	— 0.0	12	6,487	e.	33	nw.	23	14	9	7	4.2	72.1	1881	50.8	1871
Detroit	724	24	29.29	30.05	— .01	66.2	+ 3.8	91	2	75	39	25	57	33	54	72	2.47	— 0.1	12	7,116	sw.	40	w.	23	15	10	5	3.8	72.3	1881	58.2	*
Upper Lake Region.						62.4	+ 3.8									4.18	+ 0.6													
Alpena	609	23	29.36	30.02	+ .01	59.8	+ 3.6	92	2	68	32	25	52	33	53	83	2.64	— 1.4	13	6,053	se.	34	nw.	15	10	12	8	4.9	62.4	1881	52.8	1883
Grand Haven	628	24	29.34	30.01	— .02	63.5	+ 4.1	88	1	72	40	25	56	30	54	75	6.56	+ 2.9	12	6,772	sw.	38	w.	23	13	10	7	4.8	67.4	1881	55.2	1888
Marquette	734	24	29.15	29.93	— .06	61.7	+ 6.3	93	1	70	36	25	53	27	48	70	2.73	— 1.7	11	8,415	s.	44	sw.	26	12	6	12	5.5	63.2	1891	52.2	1873
Port Huron	639	21	29.37	30.05	+ .01	65.3	+ 5.1	92	2	75	36	25	56	29	55	77	3.71	+ 1.4	8	7,641	s.	44	w.	23	19	5	6	3.5	68.4	1881	55.6	1879
Sault Ste. Marie	642	7	29.29	29.98	.....	57.2	+ 1.2	86	3	67	30	25	48	33	51	87	3.34	+ 1.1	13	5,564	se.	36	nw.	23	7	8	15	6.2	59.2	1891	52.6	1888
Chicago	824	24	29.17	30.03	— .01	66.2	+ 2.7	90	2	73	44	24	59	23	54	69	8.28	+ 5.4	11	11,680	s.	48	s.	22	15	10	5	4.0	69.5	1881	59.8	1888
Milwaukee	673	24	29.30	30.00	— .04	64.2	+ 3.2	94	1	72	39	25	57	34	54	74	5.06	+ 2.1	11	6,910	s.	36	nw.	9	14	9	7	4.4	67.2	1891	56.9	1883
Green Bay	617	9	29.35	30.00	— .04	63.6	+ 3.9	93	1	74	34	25	53	35	49	66	3.27	+ 0.1	9	5,599	s.	32	sw.	23	9	15	6	5.1	66.0	1891	57.0	1888
Duluth	656	24	29.19	29.90	— .08	52.8	+ 4.4	94	1	68	37	30	52	36	46	69	2.08	— 2.1	6	4,533	nw.	26	nw.	4	18	8	4	3.1	61.6	1891	50.6	1886
North Dakota.						67.0	+ 1.6									1.82	+ 0.2													
Moorhead	935	14	28.88	29.88	— .08	59.2	+ 3.5	98	1	72	28	17	46	46	43	66	0.87	— 1.6	6	9,144	s.	48	se.	12	13	12	5	4.3	62.0	1891	53.2	1881
St. Vincent	804	15	29.00	29.86	— .09	56.3	+ 2.9	100	1	70	23	17	43	43	43	75	1.08	+ 1.0	8	6,944	nw.	34	se.	13	11	11	8	5.0	58.2	1891	50.4	1886
Bismarck	1,681	20	28.12	29.89	— .06	57.9	+ 1.3	94	2	71	26	30	45	54	41	63	3.83	+ 2.7	4	7,580	nw.	59	nw.	22	18	8	4	3.7	61.8	1891	52.8	1881
Williston	1,874	16	27.90	29.87	— .08	54.2	— 1.5	89	12	68	24	30	41	48	34	52	1.50	+ 0.6	12	7,238	w.	48	w.	14	7	14	9	5.9	59.9	1892	51.4	1881
Upper Miss. Valley.						67.3	+ 2.9									3.44	— 0.2													
Minneapolis	.....	.....	.....	.....	.....	64.2	.....	94	1	76	37	24	53	38	.....	.....	1.52	.....	3	.....	s.	.....	.....	.....	16	8	6	.....	.....	.....	.....	.....
St. Paul	850	24	29.05	29.95	— .04	63.8	+ 4.1	94	1	75	37	24	52	40	46	62	1.82	— 1.4	4	5,943	se.	32	sw.	22	15	10	5	3.9	65.6	1891	53.7	1873
La Crosse	720	22	29.22	29.98	— .03	64.1	+ 3.7	94	1	74	33	25	54	33	51	71	5.14	+ 0.5	10	5,472	s.	32	w.	23	14	9	7	4.3	67.4	1891	56.6	1873
Davenport	613	23	29.36	30.00	— .04	67.1	+ 2.9	93	1	77	42	24	58	27	55	73	3.02	— 0.2	13	5,677	s.	36	nw.	9	15	6	9	4.5	69.8	1881	60.5	1879
Des Moines	869	17	29.08	30.00	— .01	66.7	+ 3.3	93	1	78	37	18	56	37	52	69	4.46	+ 0.9	12	5,557	s.	34	sw.	22	18	7	5	3.6	68.2	1891	59.4	1883

TABLE I.—*Climatological data for Weather Bureau Stations, September*, 1894—Continued.

Districts and stations.	Elevation above sea-level, feet.	Length of record, years.	Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.									Humidity and precipitation.				Wind.				Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Mean temperature data since opening of station.			
			Mean pressure, 8 a. m. and 8 p. m. + 2.	Mean reduced.	Departure from normal.	Mean max. and min. + 2.	Departure from normal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest daily range.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.	Departure from normal.	Days with .01, or more.	Total movement, miles.	Prevailing direction.	Maximum velocity. Miles per hour.	Maximum velocity. Direction.	Maximum velocity. Date.				Highest for month.	Year.	Lowest for month.	Year.
Up. Miss. Val.—Con.																													
Dubuque	.....	22	.....	.....	.....	66.2	+ 3.8	95	1	78	33	30	55	47	.....	.....	2.96	— 2.0	10	.....	S.	....	.....	...	12	3	15	....	69.3	1891	58.7	1873
Keokuk	613	24	29.37	30.01	— .02	68.4	+ 3.0	95	1	78	44	24	59	30	57	74	4.86	+ 1.2	15	4,617	S.	36	W.	6	14	8	8	3.8	72.4	1881	62.7	*
Cairo	359	24	29.66	30.04	— .01	71.5	+ 1.8	90	6	80	48	25	63	28	61	78	2.69	+ 0.1	9	5,003	SE.	36	SE.	12	13	10	7	4.1	75.1	1881	66.5	1890
Springfield, Ill.	644	16	29.37	30.04	— .02	67.5	+ 1.8	92	1	77	41	25	58	30	56	73	2.94	— 0.5	12	6,205	S.	33	SW.	6	14	7	9	4.3	72.1	1881	62.5	1879
Hannibal	534	....	29.46	30.02	.....	68.7	.....	95	9	78	44	11	59	31	57	74	2.40	.....	13	5,829	SE.	26	SE.	2	13	10	7	4.3	.....	.....	.....	.....
Saint Louis	571	24	29.45	30.05	.00	70.8	+ 1.6	94	9	79	48	25	62	29	59	73	3.11	— 0.2	9	7,029	S.	40	SW.	15	18	5	7	3.5	75.3	1881	64.9	1879
Missouri Valley.						68.4	+ 2.4										3.60	+ 1.1													
Columbia	.....	.....	.....	.....	.....	69.8	.....	96	8	82	42	11	57	33	.....	.....	7.57	.....	14	4,483	SE.	22	S.	15	11	12	7	4.4	.....	.....	.....	.....
Kansas City	963	7	29.01	30.02	.00	69.1	+ 1.7	93	7	79	44	30	59	27	58	75	7.14	+ 2.7	11	5,767	SE.	29	SE.	1	10	14	6	4.4	71.6	1891	63.2	1890
Springfield, Mo.	1,336	8	28.65	30.04	.00	68.0	+ 0.3	92	8	77	42	30	59	26	58	77	8.52	+ 5.0	10	6,954	SE.	32	SW.	3	13	12	5	3.7	72.0	1893	63.4	1890
Topeka	.....	8	.....	.....	.....	69.9	+ 3.0	96	3	82	39	30	58	32	.....	.....	3.55	+ 0.9	12	.....	SE.	.....	.....	.....	15	11	4	....	71.2	1893	63.2	1889
Omaha	1,123	24	28.81	29.98	— .05	67.2	+ 2.8	90	1	78	38	30	56	30	53	67	2.48	— 0.7	8	5,809	SE.	32	SE.	28	15	9	6	4.2	70.0	1891	60.4	1873
Valentine	2,613	10	27.24	29.92	— .08	62.7	+ 2.3	95	27	78	27	30	48	45	42	56	0.36	— 1.0	3	8,878	S.	36	S.	13	9	17	4	4.8	65.1	1891	58.4	1889
Sioux City	1,165	....	28.72	29.94	.....	65.7	.....	94	3	78	35	30	53	40	48	61	0.73	.....	3	8,208	S.	44	S.	13	13	11	6	4.0	.....	.....	.....	.....
Pierre ¶	1,470	20	28.34	29.88	— .11	64.4	+ 2.2	97	2	78	29	30	51	44	40	50	0.73	— 0.3	6	7,523	SE.	40	S.	5	13	12	5	4.0	68.4	1891	57.2	1881
Huron	1,310	14	28.53	29.91	— .09	63.4	+ 4.3	98	27	79	30	30	48	46	43	59	2.42	+ 0.8	7	11,051	SE.	62	SE.	12	16	9	5	4.1	66.0	1891	55.5	1881
Northern Slope.						67.3	— 0.9										1.16	+ 0.2													
Havre	2,477	15	27.29	29.87	— .09	54.8	+ 0.2	84	11	68	26	29	42	45	36	58	1.70	+ 0.5	8	7,030	W.	44	NE.	9	9	16	5	4.8	61.0	1888	50.2	1884
Miles City	2,374	17	27.41	29.87	.....	58.7	— 1.3	93	12	72	33	24	46	55	34	47	0.72	0.0	8	4,287	SE.	30	W.	3	7	14	9	5.5	69.4	1888	54.7	1884
Helena	4,108	15	25.82	29.99	.00	54.0	— 2.6	80	11	64	31	24	44	35	34	53	1.42	+ 0.2	13	5,768	SW.	45	SW.	1	13	6	11	4.9	62.6	1888	49.7	1884
Rapid City	3,280	9	26.59	29.91	— .08	60.2	— 0.5	93	25	73	33	30	47	54	35	46	0.65	— 0.1	7	7,140	W.	36	W.	3	8	15	7	5.3	64.4	*	58.2	1889
Cheyenne	6,105	24	24.04	29.95	— .02	56.4	— 0.3	85	1	70	32	24	43	38	27	42	1.23	+ 0.4	7	7,701	NW.	38	SE.	30	10	15	5	4.2	61.2	1892	51.8	1878
Lander ‡	5,377	13	24.64	29.98	.....	52.9	— 3.9	81	1	68	27	24	38	48	32	54	2.29	+ 2.0	6	3,692	SW.	48	SW.	12	10	14	6	5.0	59.0	1887	52.9	1894
North Platte	2,841	20	27.06	29.96	— .05	64.2	+ 1.8	94	13	79	29	30	49	47	43	57	0.14	— 1.4	3	7,795	SE.	34	S.	13	13	16	1	3.6	65.8	1891	59.8	1889
Middle Slope.						66.5	+ 0.9										3.00	+ 1.5													
Colorado Springs	6,098	12	24.06	30.00	.....	57.8	— 1.4	82	25	72	28	24	44	45	32	46	0.87	— 0.4	3	6,392	N.	35	SW.	13	20	*7	3	3.1	63.8	1892	56.7	1874
Denver	5,287	23	24.77	29.94	— .02	62.6	+ 1.2	88	26	76	37	23	49	40	35	42	1.55	+ 0.7	4	4,967	S.	35	NE.	22	18	10	2	3.7	66.0	1892	58.5	1878
Pikes Peak	.....	18	17.93	.....	.....	29.2	.....	44	3	35	9	29	24	17	17	64	1.94	.....	6	16,152	W.	86	SW.	13	14	10	6	4.2	39.4	1878	29.2	1894
Pueblo	4,734	7	25.27	29.94	.....	64.6	+ 0.9	91	22	80	34	24	49	50	34	43	0.87	— 0.5	3	5,138	NW.	36	W.	28	21	7	2	2.8	68.8	1892	62.6	1889
Concordia	1,410	10	28.50	29.96	— .08	68.4	+ 1.5	94	7	80	35	30	57	33	54	69	2.99	+ 0.4	10	5,778	S.	36	S.	28	15	8	7	3.7	70.6	1891	64.0	1889
Dodge City	2,523	20	27.37	29.94	— .05	68.8	+ 1.4	96	2	81	38	30	56	39	51	64	2.03	+ 0.8	4	8,929	S.	46	S.	28	20	7	3	3.2	70.4	1893	64.1	1883
Wichita	1,366	7	28.54	29.96	.....	70.8	+ 1.8	99	7	82	40	30	60	33	55	66	9.72	+ 8.0	12	6,471	S.	31	NW.	22	16	8	6	4.2	72.8	1893	66.2	1890
Oklahoma	1,239	....	28.71	29.99	.....	74.4	.....	101	7	85	46	30	64	29	58	66	1.65	.....	4	7,544	S.	30	N.	9	18	7	5	3.5	.....	.....	.....	.....
Southern Slope.						.....	.....										.....	.....													
Abilene	1,749	9	28.20	29.98	— .03	75.6	+ 1.7	96	7	85	52	12	66	26	61	71	0.54	— 2.3	7	6,713	S.	28	NE.	10	11	14	5	4.4	79.3	1893	69.8	1889
Amarillo	3,691	....	26.27	29.97	.....	66.8	.....	91	6	78	43	30	56	34	49	64	2.41	.....	6	11,894	S.	54	N.	9	17	6	7	3.8	.....	.....	.....	.....
Southern Plateau.						73.1	— 0.4										0.48	— 0.6													
El Paso	3,813	17	26.19	29.96	— .01	73.5	+ 0.1	92	19	86	47	11	61	36	43	43	0.40	— 0.9	3	7,236	NE.	41	SW.	28	19	10	1	2.6	77.9	1878	69.1	1882
Santa Fe	7,051	21	23.34	29.99	.00	59.0	— 0.7	80	22	70	36	11	48	31	29	41	0.87	— 0.5	4	4,652	SW.	36	SE.	30	21	7	2	2.3	64.8	1892	56.8	1880
Tucson	2,390	10	27.44	29.85	.....	77.7	0.0	100	18	92	46	29	63	41	45	39	0.12	— 1.3	1	3,879	SE.	26	SW.	30	19	10	1	2.5	83.2	1879	76.5	1876
Yuma	141	19	29.65	29.79	— .02	83.3	— 0.9	109	21	99	50	29	68	41	54	46	0.51	— 0.4	1	4,064	NE.	33	NW.	28	26	3	1	1.2	89.2	1888	80.0	1884
Middle Plateau.						69.1	— 2.2										1.15	+ 0.5													
Carson City	4,720	7	25.30	29.98	.....	59.0	— 1.2	83	21	74	28	28	44	43	27	33	0.06	— 0.6	1	.....	SW.	....	.....	...	29	0	1	1.1	65.6	1888	55.8	1893
Winnemucca	4,340	16	25.66	29.97	+ .02	57.2	— 2.6	84	24	73	26	*	41	45	21	30	0.52	+ 0.2	3	6,474	SW.	50	NW.	6	18	8	4	3.3	66.6	1888	56.4	*
Salt Lake City	4,345	21	25.65	29.99	+ .03	61.0	— 2.9	85	*	72	37	13	50	33	39	51	2.87	+ 2.0	9	4,401	SE.	38	SW.	12	19	6	5	3.0	70.6	1888	58.8	1884
Northern Plateau.						59.6	— 2.0										1.08	+ 0.2													
Baker City	3,430	6	26.44	29.94	.....	54.6	.....	84	10	67	34	23	42	39	35	53	0.28	.....	6	3,536	SE.	26	SE.	29	11	10	9	4.7	58.9	1892	54.6	1894
Idaho Falls	4,742	5	25.22	29.96	.....	54.9	.....	81	1	69	23	29	41	43	32	51	1.13	.....	5	6,941	SW.	34	SW.	25	12	7	11	5.0	61.7	1892	52.5	1881
Spokane	1,930	14	27.95	29.97	— .01	57.0	— 0.9	85	10	68	38	23	46	36	37	55	1.10	+ 0.1	8	5,014	S.	30	SW.	21	5	10	15	6.5	64.6	1888	52.5	1884
Walla Walla	1,018	9	28.91	29.98	— .02	62.2	— 3.1	92	10	72	39	23	52	33	46	58	1.05	+ 0.4	10	4,530	S.	30	SW.	21	11	14	5	5.1	69.2	1888	61.2	1887
N. Pac. Coast Region.						57.1	— 0.3										0.68	+ 2.2													
East Clallam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40	*	47	....	.....	.....	7.64	.....	11	.....	W. *	....	.....	...	*7	*5	*17	....	.....	.....	.....	.....
Fort Canby	179	12	29.79	29.99	— .02	56.8	— 1.1	78	*	61	47	30	52	25	52	87	5.53	+ 2.2	20	9,966	SE.	72	SE.	25	7	4	19	7.1	60.0	1883	55.0	1893
Neah Bay	.....	11	.....	.....	.....	55.2	0.0	69	10	63	41	*	48	21	.....	.....	13.84	+ 6.6	16	.....	SW.	.....	.....	...	6	7	17	....	57.0	*	53.6	1887
Olympia	.....	18	.....	.....	.....	58.0	+ 1.1	88	10	68	37	*	48	27	.....	.....	3.66	+ 0.8	15	.....	SW.	.....	.....	...	5	17	8	....	60.6	1888	54.5	1878
Port Angeles	29	10	29.94	29.97	— .03	53.4	+ 0.7	76	9	60	40	22	47	26	48	84	2.60	+ 0.5	15	3,300	S.	24	W.	11	10	8	12	5.6	55.6	1888	51.0	1884
Port Crescent	.....	.....	.....	.....	.....	52.0	.....	72	*	60	32	13	44	29	.....	.....	4.23	.....	14	.....	SW.	.....	.....	...	13	7	10	.....	.....	.....	.....	.....
Pysht	.....	.....	.....	.....	.....	53.2	.....	73	9	61	37	*	45	27	.....	.....	6.38	.....	17	.....	W.	.....	.....	...	8	3	19	.....	.....	.....	.....	.....
Seattle	119	....	29.83	29.96	.....	57.6	.....	79	10	64	46	17	51	27	50	78	2.50	.....	17	4,417	SE.	25	SE.	25	6	18	6	5.6	.....	.....	.....	.....
Tatoosh Island	86	11	29.88	29.98	— .02	53.8	— 0.5	65	10	58	45	12	50	16	50	87	11.52	+ 6.6	19	8,925	SW.	52	E.	24	3	8	19	7.6	56.4	1888	51.2	1890
Astoria	.....	10	.....	.....	.....	59.0	— 0.9	78	9	65	44	30	53	22	.....	.....	5.75	+ 0.8	18	.....	W.	.....	.....	...	9	8	13	....	65.4	1888	56.9	1887
Portland	157	23	29.84	30.01	— .02	60.0	— 1.5	89	10	68	44	19	52	31	49	71	1.32	— 0.4	16	6,704	NW.	35	SW.	26	7	6	17	6.2	66.0	1888	55.7	1884
Roseburg	523	17	29.43	29.99	— .05	60.5	— 0.2	92	9	72	42	23	50	39	48	70	1.22	+ 0.5	9	2,252	NW.	24	SW.	25	10	7	13	5.5	66.3	1888	57.4	1893
Mid. Pac. Coast Reg.						65.5	+ 1.7										1.22	+ 0.8													
Eureka	64	8	29.95	30.01	.00	56.0	+ 1.6	71	25	63	42	30	49	21	51	87	1.84	+ 1.3	5	4,736	NW.	40	NW.	20	15	12	3	4.3	57.4	1888	53.2	1890
Red Bluff	342	17	29.55	29.91	— .01	74.8	+ 1.6	100	22	88	48	30	62	34	44	40	1.11	— 0.5	2	5,575	N.	36	N.	6	25	3	2	1.4	80.2	1888	67.3	1884
Sacramento	71	18	29.82	29.89	— .05	71.8	+ 1.9	98	10	86	46	28	58	38	47	49	0.88	+ 0.6	2	6,516	NW.	30	SW.	29	27	1	2	0.8	75.4	1888	64.8	1884
San Francisco	153	24	29.78	29.94	— .01	63.4	+ 1.7	94	22	71	49	30	56	32	51	76	1.05	+ 0.8	2	8,564	SW.	38	SW.	11	22	7	1	2.1	64.6	1889	58.3	*
Point Reyes Light	.....	.....	.....	.....	.....	57.2	.....	76	*	63	46	*	51	20	.....	.....	2.64	.....	3	.....	NW.	.....	.....	...	12	4	14	....	.....	.....	.....	.....
S. Pac. Coast Region.						69.7	— 1.3										0.80	+ 0.4													
Fresno	338	8	29.51	29.87	.00	74.0	— 1.6	102	23	90	48	14	58	42	44	40	0.75	+ 0.6	2	4,361	NW.	22	NW.	12	27	2	1	1.2	80.7	1888	68.4	1893
Los Angeles	330	18	29.56	29.91	.00	69.2	— 0.5	99	15	82	49	29	57	44	54	73	0.73	+ 0.7	2	2,492	W.	18	W.	30	12	18	0	3.3	73.8	1888	66.0	1880
San Diego	93	23	29.82	29.92	.00	65.9	— 1.9	90	15	72	52	29	60	30	58	80	0.01	— 0.1	1	3,675	NW.	18	NW.	10	21	0	9	4.6	70.2	*	63.1	1880
San Luis Obispo	234	....	29.69	29.94	.....	65.2	.....	94	15	77	46	20	53	38	49	68	1.91	.....	2	3,884	W.	26	W.	27	19	9	2	3.0	.....	.....	.....	.....

NOTE.—The data at stations having no departures are not used in computing the district averages. Letters of the alphabet denote number of days missing from the record. *Two or more directions, dates, or years. †Received too late to be considered in departures, etc. ‡Normals of temperature and precipitation and extremes of temperature combined with Fort Washakie records. §All data for 27 days only. ‖All temperature and precipitation normals and extremes of temperature are obtained from Fort Buford records. ¶Normals of temperature and precipitation and extreme of temperature combined with Fort Sully records.

TABLE II.—*Meteorological record of voluntary and other co-operating observers, September*, 1894.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Alabama.	°	°	°	*Ins.*
Aleo	90	56	73.4	.....
Ashville *1	89°	56	70.3	.....
Bermuda †	89	52	75.0	1.44
Carrollton *† 1	84	58	74.7	2.24
Citronelle †	85	63	76.8	2.20
Claiborne Landing †	.....	.....	.....	1.60
Collirene 1	88*	60	78.6	1.85
Cordova †	.....	.....	.....	2.54
Daphne †	92	52	76.6	4.03
Decatur b †	92	49	73.3	2.08
Demopolis †	.....	.....	.....	1.05b
Elba †	85	50	72.5	1.35
Eufaula a †	92	61	78.0	3.04
Eufaula c †	.....	.....	.....	2.95
Evergreen †	92	54	76.6	1.14
Florence a †	.....	.....	.....	2.65
Florence b †	91	48	71.4	2.78
Fort Deposit †	91	56	76.3	1.97
Gadsden †	89	53	75.4	3.80
Greensboro †	89	57	75.3	3.46
Healing Springs †	93	52	75.0	6.18
Highland Home †	88	61	76.6	1.01
Jasper †	88	51	72.5	1.50
Livingston †	90	55	76.0	2.47
Lock No. 4	.....	.....	.....	2.51
Madison Station †	89	50	73.4	2.02
Maple Grove †	95	51	73.8	4.21
Marion †	90	58	76.0	3.71
Mount Willing †	89	58	76.0	1.72
Newbern †	88	60	76.4	1.61
Newburg †	91	55	72.9	2.81
Newton †	92	56	76.3	2.85
Oneonto †	91	50	73.8	2.64
Opelika †	92	60	77.4	1.47
Oxanna *† 1	88	57	73.0	3.41
Pine Apple †	90	49	73.7	1.43
Pushmataha †	.....	51	.....	3.67
Rock Mills †	87	57	74.2	2.66
Selma †	.....	.....	.....	1.93
Starlington *† 1	93	63	75.7	1.56
Sturdevant †	.....	.....	.....	1.05
Thomasville †	92	56	75.6	1.74
Tuscaloosa †	92	54	75.8	5.19
Tuscumbia †	96	49	75.0	3.14
Union †	90*	55*	75.8*	0.75
Union Springs †	90	58	75.9	1.52
Uniontown	90	58	77.4	2.01
Valley Head †	90	49	73.0	3.38
Wetumpka	.....	.....	.....	1.34
Wilsonville †	.....	.....	.....	3.49
Arizona.				
Ariz. Canal Co. Dam	105	55	82.9	T.
Benson a *†	98	55	83.3	0.95
Benson b †	100	40	70.3	1.21
Bisbee *† 1	90	47	69.6	0.39
Buckeye †	106	46	79.9	0.50
Calabasas †	95	41	71.0	0.41
Casa Grande *†	103	62	82.2	0.89
Dragoon Summit *†	100	64	80.4	0.67
Dudleyville †	109	38	77.7	1.52
Eagle Pass *†	.....	40	62.0	0.60
Farleys Camp 2	.....	.....	75.2	2.50
Flagstaff †	80	26	58.4	1.52
Fort Apache	89	32	63.0	1.32
Fort Bowie †	91	47	71.8	1.06
Fort Grant	95	41	70.5	0.14
Fort Huachuca	93	39	69.7	0.15
Gila Bend *†	107	60	88.2	0.00
Globe †	98	49	75.0	0.26
Holbrook †	89	31	65.0	1.48
Keams Canyon †	88	25	59.4	0.30
Lochiel †	88	45	68.9	0.25
Maricopa *†	116	55	85.0	0.35
Mount Huachuca †	88	43	70.2	0.00
Natural Bridge †	.....	.....	.....	1.79
Oracle †	93	48	73.6	1.11
Palomas †	105	42	79.2	0.07
Pantano *†	92	60	76.3	0.56
Peoria †	101	54	81.0	0.47
Phenix b †	100	51	79.0	0.15
Reymert †	101	50	83.6	0.45
Rye †	100	40	80.4	1.75
San Carlos	105	41	75.2	0.09
San Simon *†	103	63	77.2	0.70
Show Low	.....	.....	.....	2.86
Signal †	102	49	78.2	0.26
Sulphur Spr'g Val †	.....	.....	.....	0.18
Texas Hill *†	111	61	86.9	0.00
Tucson b *†	100	.....	87.2	0.00
Tucson c †	102	44	79.5	T.
Walnut Ranch *† 1	88	56	68.0	0.48
Whipple Barracks	91	28	62.0	0.45
Wilcox †	.....	.....	.....	0.10
Willcox *†	85	47	69.3	0.27
Yuma *†	107	60	84.7	0.12
Arkansas.				
Arkadelphia †	.....	.....	.....	1.95
Arkansas City †	.....	.....	.....	4.35
Bee Branch †	94	45	73.0	2.20
Blanchard Springs †	94	44	74.2	0.40
Brinkley †	98	47	75.2	1.37
Camden a †	.....	.....	.....	1.33
Camden b †	97	46	74.4	1.30

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Arkansas—Cont'd.	°	°	°	*Ins.*
Cassville †	88	47	69.0	6.58
Clarksville	.....	.....	.....	4.02
Conway *1	90	50	71.3	2.41
Corning †	93	38	70.6	1.94
Dallas †	97	48	72.2	4.73
Dardanelle †	.....	.....	.....	4.85
Fayetteville †	94	44	70.2	8.94
Forrest †	92	48	74.1	3.05
Fulton †	.....	.....	.....	1.31
Helena a †	.....	.....	.....	2.17
Helena b †	100	50	76.8	2.28
Hot Springs a	100	47	73.4	2.40
Hot Springs b	.....	.....	.....	4.55
Hot Springs (near)	.....	.....	.....	6.53
Keesees Ferry †	97	43	70.1	3.11
Kirby †	93	40	71.6	3.60
Lonoke *1	93	50	75.5	1.87
Luna Landing *†	88	55	74.5	2.00
Madding 2	.....	.....	69.4	3.50
Malvern †	98	48	74.4	2.03
Monticello †	94	52	76.0	2.55
Mount Ida †	92	45	71.0	5.21
Mount Nebo †	91	46	68.2	4.58
Newport a †	.....	.....	.....	3.16
Newport b †	95	49	74.0	3.12
Newport c †	95	43	71.6	2.38
Osceola †	92	46	73.3	3.03
Ozark †	97	53	74.4	4.41
Pine Bluff †	93	52	75.6	5.20
Pocahontas †	92	40	71.4	1.73
Prescott †	98	51	76.8	4.87
Rison †	94	48	73.1	5.66
Rogers †	.....	.....	.....	6.92
Russellville †	97	48	73.1	6.02
Stuttgart †	92	46	73.0	4.86
Texarkana †	99	52	76.8	1.68
Washington †	93	54	74.2	3.52
Winslow †	84	46	68.4	6.74
California.				
Adin	87	29	58.8	0.13
Ager	96	36	65.6	0.00
Agnew	99	43	66.7	1.02
Anaheim *†	102	52	68.3	0.10
Antioch *†	97	52	73.6	1.07
Aptos *†	90	45	63.1	2.00
Arlington Heights	102	43	72.8	0.11
Athlone *†	110	49	75.8	0.00
Auburn *†	97	50	73.9	0.67
Bakersfield *†	100	54	79.1	0.30
Ballast Point L. H.	.....	.....	.....	0.00
Barstow †	100	43	76.1	0.00
Bear Valley †	.....	.....	.....	1.48
Beaumont *†	104	49	72.8	0.42
Belmont *†	102	53	66.5	.....
Berendo *†	105	55	78.8	0.75
Berkeley	92	47	64.4	1.61
Bethany *1	97	50	73.0	1.10
Bishop Creek *†	94	48	73.6	T.
Boca *†	92	25	52.1	T.
Borden *†	106	55	78.1	0.80
Boulder Creek *†	98	40	64.1	2.62
Brentwood *†	98	50	69.4	1.75
Brighton *†	98	53	73.4	0.03
Byron *†	95	48	71.0	1.03
Caliente *†	98	50	73.6	0.60
Calistoga *†	102	44	70.6	1.00
C. Mendocino L. H.	.....	.....	.....	2.33
Capitola *†	86	56	67.1	.....
Castroville *†	85	48	62.3	1.63
Cedarville †	85	33	58.2	0.20
Centerville *1	105	53	69.5	1.42
Chico *†	106	46	71.3	2.00
Chino *†	100	44	70.9	0.25
Cisco *†	75	28	52.2	.....
Claremont †	95	45	69.2	0.62
Cloverdale *1	100	47	73.7	1.35
Colfax *†	98	42	69.1	1.00
Colton *†	96	42	68.3	0.45
Colusa †	97	45	72.0	0.91
Corning *†	102	50	77.6	.....
Crescent City †	80	39	57.3	2.70
Crescent City L. H.	.....	.....	.....	2.86
Crofton *†	97	54	75.9	0.00
Davisville a *†	97	52	75.7	0.93
Deep Creek	.....	.....	.....	0.49
Delano *†	97	55	78.2	0.35
Delta *†	97	44	69.3	4.00
Dinuba *†	107	53	77.2	0.47
Downey *†	100	52	71.1	0.57
Dry Creek *† 3	.....	48	69.7	.....
Drytown	99	42	71.1	0.97
Dunnigan *†	104	52	75.1	1.00
Dunsmuir *†	88	40	63.0	0.20
East Brother L. H.	.....	.....	.....	0.55
Edgwood *†	82	42	59.8	.....
Edmanton *1	87	30	55.7	1.17
Eldorado *†	98	48	70.8	0.67
Elk Grove *†	103	60	77.6	.....
Elmira *†	104	51	77.0	1.44
El Verano *†	96	47	68.4	1.67
Emigrant Gap *†	82	30	55.1	0.00
Escondido	101	41	70.0	.....
Esparto *†	100	51	75.3	1.45

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
California—Cont'd.	°	°	°	*Ins.*
Evergreen	.....	.....	.....	1.11
Exeter *†	99	52	76.7	0.33
Fall Brook *1	101	48	66.5	0.38
Farmington *†	102	50	68.2	0.75
Felton *†	106	42	68.0	3.10
Fernando *†	100	45	69.1	0.00
Florence *†	94	51	67.3	0.31
Florin *†	100	48	73.0	0.80
Folsom City a *†	102	55	77.9	0.71
Folsom City b *1	99	52	72.6	0.56
Fort Ross	.....	.....	.....	1.79
Fremontville *1	96	43	65.7	0.85
Fresno *†	96	58	74.7	.....
Fruto *†	100	50	74.9	0.65
Galt *†	100	50	72.7	1.32
Georgetown †	91	39	66.9	1.26
Gilroy *†	102	50	66.9	1.04
Girard *†	85	40	65.9	0.40
Glen Ellen *†	104	47	66.5	.....
Gormans Station †	.....	.....	.....	0.42
Goshen *†	99	55	75.2	0.04
Grass Valley a	.....	.....	.....	1.01
Greenville *† 1	92	22	55.5	0.37
Guinda	.....	.....	.....	1.92
Haywards *†	90	49	65.1	1.62
Healdsburg *1	94	40	62.2	1.15
Hollister *†	98	54	63.8	0.55
Hornbrook *†	90	42	64.8	0.00
Hueneme	.....	.....	.....	0.47
Humboldt L. H.	.....	.....	.....	1.69
Huron *†	105	50	74.8	0.00
Hydesville †	89	38	57.8	1.73
Independence †	94	41	69.0	T.
Indio a *†	113	66	87.5	0.00
Ione *†	97	49	70.6	0.75
Iowa Hill *1	96	44	69.2	0.78
Jackson	88	38	66.2	1.10
Jolon	.....	.....	.....	1.20
Keeler *†	97	52	71.5	0.00
Keene *†	92	45	67.4	0.35
Kennedy Gold Mine	96	42	70.2	1.30
Kernville	.....	.....	.....	0.00
King City *†	104	40	74.1	1.13
Kingsburg *†	97	52	73.1	0.40
Knights Landing *†	102	50	78.9	1.10
Kono Tayee	90	46	69.3	0.50
Lagrange *†	104	46	76.2	0.67
La Porte *† 1	83	33	53.6	1.13
Lathrop *†	100	52	73.7	.....
Laurel *†	101	45	67.4	0.00
Lemoore a *†	100	53	72.3	0.48
Lick Observatory †	85	35	63.5	1.64
Lime Point L. H.	.....	.....	.....	1.26
Little Bear Valley	.....	.....	.....	0.52
L. Bear Val. (near)	.....	.....	.....	0.60
Livermore *†	99	50	69.8	1.45
Livingston *†	104	52	77.1	0.70
Lodi	96	43	69.8	1.78
Long Beach *†	95	50	68.1	.....
Los Alamos	.....	.....	.....	1.81
Los Angeles *†	104	57	73.2	0.00
Los Banos *†	94	52	70.6	0.75
Los Gatos a *†	98	50	70.0	0.50
Los Gatos b	99	43	67.7	1.34
L. Holcomb Valley	.....	.....	.....	0.48
Mammoth Tank *3	108	65	88.2	0.36
Manzana	97	38	71.7	0.49
Mare Island L. H	.....	.....	.....	0.61
Mariposa *1	95	43	70.4	2.09
Martinez *†	92	48	61.0	0.95
Marysville *†	101	52	75.4	0.62
Mendota *†	100	53	76.2	0.88
Menlo Park *†	98	49	66.4	1.65
Merced *†	103	50	71.7	0.72
Middletown *†	104	40	66.7	1.28
Mills College	.....	.....	.....	1.97
Milton *†	99	51	72.5	1.47
Milton (near) *†	100	50	75.3	1.51
Modesto *†	100	60	78.9	1.20
Mohave *†	100	46	76.0	.....
Mokelumne Hill *†	.....	46	69.4	1.18
Montague *†	88	54	69.6	0.00
Monterey *†	88	44	66.4	.....
Monterey (Hotel del Monte) *†	95	48	63.5	.....
Morses House	.....	.....	.....	0.67
Mount Glenwood *1	99	53	77.3	2.29
Napa a *†	98	42	65.7	1.51
Napa b	95	47	69.6	1.23
National City †	98	49	68.3	0.00
Needles †	103	54	82.6	0.21
Neenach *1	97	66	76.7	.....
Nevada City †	86	33	61.5	1.21
New Almaden *†	100	52	69.4	1.21
Newark *†	98	56	70.4	1.36
Newcastle a †	97	42	71.8	0.78
Newcastle b *†	98	58	76.4	0.00
Newhall *†	106	50	72.0	0.80
Newman *†	105	55	75.5	0.80
Niles *†	108	52	70.5	1.10
Norwalk *†	99	50	70.4	0.40
Oakdale a *1	101	48	71.2	0.54
Oakdale b *†	100	52	72.7	0.36
Oakland b *†	83	52	61.8	1.45

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
California—Cont'd.	°	°	°	*Ins.*
Ogilby *†	112	64	88.6	0.64
Oleta *1	92	42	64.5	1.38
Ontario a *†	98	50	71.3	0.28
Ontario b	100	44	72.8	0.30
Orangevale †	96	44	72.6	0.59
Orland *†	103	53	75.9	0.80
Ormonde †	.....	.....	.....	1.00
Oroville a *†	.....	.....	.....	0.86
Oroville b	100	50	74.4	0.86
Pajaro *†	94	37	61.5	0.00
Palermo †	103	42	71.4	0.83
Palm Springs *†	105	54	86.1	0.00
Pasadena †	96	47	70.6	0.73
Paso Robles a *†	100	47	70.0	0.57
Paso Robles b	98	42	66.7	1.13
Petaluma *1	98	52	67.1	1.61
Piedras Blancas LH	.....	.....	.....	1.70
Pigeon Point L. H	.....	.....	.....	1.29
Placerville a *†	97	44	66.1	1.35
Placerville b	90	34	61.0	1.52
Pleasanton a *†	104	46	66.4	1.33
Pleasanton b	98	37	65.0	1.45
Pt. Ano Nuevo L. H.	.....	.....	.....	1.04
Point Arena L. H	.....	.....	.....	1.11
Point Bonita L. H.	.....	.....	.....	1.72
Pt. Conception L. H.	.....	.....	.....	1.00
Point Fermin L. H.	.....	.....	.....	0.18
Pt. Hueneme L. H.	.....	.....	.....	0.53
Point Loma L. H.	.....	.....	.....	0.00
Point Montara L. H.	.....	.....	.....	1.29
Point Pinos L. H.	.....	.....	.....	1.12
Point Reyes L. H.	.....	.....	.....	2.64
Point Sur L. H	.....	.....	.....	1.46
Pomona *†	93	48	70.4	0.52
Pomona (near)	100	48	74.5	0.44
Portersville *†	100	51	76.4	0.43
Port Los Angeles *†	78	56	65.7	0.42
Poway *†	.....	52	63.8	T.
Puente *†	98	54	71.6	0.40
Ravenna *†	98	48	69.7	0.30
Red Bluff *†	101	64	79.9	.....
Redding a *†	101	50	76.9	1.59
Redding b †	97	47	73.8	1.32
Redlands a	.....	.....	.....	0.00
Redlands b *†	100	50	71.4	0.10
Reedley (near) *1	98	48	76.4	0.50
Represa	92	39	69.0	0.65
Rio Vista	98	47	72.0	1.28
Riverside †	104	41	71.6	0.00
Rocklin *†	100	52	73.1	0.62
Roe Island L. H.	.....	.....	.....	0.80
Rosewood *1	102	47	70.9	1.64
Sacramento a	90	38	64.0	0.68
Sacramento b *†	90	50	69.9	.....
Sacramento c *†	92	49	70.8	0.64
Salinas *†	87	50	63.1	0.95
Salton *†	115	72	91.4	0.00
San Ardo a *†	108	44	66.9	0.65
San Bernardino †	99	42	70.4	0.37
San Gabriel *†	102	54	72.9	0.66
Sanger Junction *†	100	60	78.0	0.38
San Jacinto †	103	39	71.5	0.04
San Jose a *†	97	50	67.6	1.08
San Jose b	94	37	63.3	1.35
San Luis L. H	.....	.....	.....	1.75
San Luis Obispo a	.....	.....	.....	1.81
San Luis Obispo b *†	90	50	66.2	1.40
San Mateo *†	90	54	69.6	1.75
San Miguel *†	99	49	69.2	0.47
San Miguel Island †	88	50	62.5	0.79
San Pedro *†	96	59	70.9	0.22
San Rafael †	96	32	60.2	1.61
Santa Ana *†	100	58	70.5	0.22
Santa Barbara a	94	50	65.9	1.36
Santa Barbara b *†	82	56	65.7	1.36
Santa Barbara L. H.	.....	.....	.....	1.19
Santa Clara a *†	94	44	65.6	0.99
Santa Clara b	104	41	68.4	1.18
Santa Cruz a *†	94	48	63.5	2.35
Santa Cruz b †	98	44	64.6	2.77
Santa Cruz L. H.	.....	.....	.....	2.32
Santa Margarita *†	100	38	62.6	2.22
Santa Maria	96	46	66.8	1.05
Santa Monica *†	83	52	67.1	0.60
Santa Paula a *†	90	50	65.6	0.98
Santa Paula b †	96	42	63.8	1.00
Santa Rosa *†	103	46	66.0	1.50
Selma *†	95	50	73.0	0.40
Shasta Springs †	90	30	59.8	1.94
Shingle Springs *†	101	55	76.8	0.00
Sims *†	93	34	62.4	2.80
Sisson *†	90	35	58.0	.....
Sneddens Ranch	.....	.....	.....	0.75
Soledad *†	100	44	64.5	0.79
SE. Farrallone L. H.	.....	.....	.....	0.55
South Vallejo *†	92	50	68.0	.....
Spadra *†	106	50	72.2	0.50
Squirrel Inn	.....	.....	.....	0.50
Stanford Univer'y	98	45	67.3	2.40
Stockton a	94	47	70.0	1.76
Stockton b *†	98	52	72.0	.....
Suisun City *†	103	54	73.1	0.95
Summerdale †	.....	.....	.....	1.82
Summit *†	76	28	51.9	.....
Susanville *† 1	82	36	60.0	0.39

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
California—Cont'd.	°	°	°	*Ins.*
Tehachapi *[a] *[8]	88	58	70.6	.....
Tehama *[8]	97	57	75.4	.....
Tempieton *[8]	102	45	63.0	0.90
Towles *[8]	86	39	62.3	1.20
Tracy *[8]	96	58	72.9	1.28
Traver *[5]	100	65	75.5	0.50
Trinidad L. H.	.....	.....	.....	1.65
Tropico *[8]	100	52	68.7	0.97
Truckee *[8]	80	32	58.3	0.13
Tulare *[a] *[8]	101	52	72.8	0.35
Tulare *b*	.....	.....	.....	0.50
Tulare *c*	108	42	72.0	0.42
Tunnel No. 2	.....	.....	.....	0.32
Turlock *[a] *[5]	100	50	78.9	.....
Turlock *b* †	102	38	70.6	0.89
Ukiah †	96	40	68.8	0.77
Upper Lake	103	38	68.8	0.53
Upper Mattole *[1]	99	51	66.8	2.75
Vacaville *[a] *[1]	102	52	73.3	1.13
Vacaville *b* *[8]	115	53	67.7	.....
Valley Springs *[8]	96	46	74.9	1.00
Ventura †	92	47	64.2	0.95
Vina *[8]	103	50	79.3	1.05
Volcano Springs *[8]	116	53	88.2	.....
Walnut Creek	103	45	70.6	1.50
Wenrich Ranch	.....	.....	.....	0.40
West Butte	.....	.....	.....	0.94
Westley *[8]	99	53	77.7	0.80
Wheatland	102	44	72.6	0.47
Whittier *[8]	108	57	73.5	T.
Williams *[8]	101	48	71.2	1.18
Willows *b* *[8]	100	53	75.6	0.75
Wilmington *[8]	95	52	71.6	.....
Winters *[8]	100	52	75.3	0.85
Wire Bridge *[5]	96	44	71.2	0.74
Woodland *[8]	100	50	70.7	0.82
Yerba Buena L. H.	.....	.....	.....	1.10
Yreka †	92	32	60.8	0.01
Yuba City *[5]	93	58	75.6	0.80
Colorado.				
Abbott	.....	.....	.....	0.76
Akron †	88	35	63.8	1.04
Alma †	67	19	43.4	0.83
Antlers †	.....	.....	.....	0.89
Avoca	.....	.....	.....	0.22
Box Elder	.....	.....	.....	2.16
Breckenridge †	77	15	45.6	0.63
Byers *[1]	85	40	59.1	.....
Canyon †	89	30	61.8	0.37
Castle Rock †	90	30	60.2	1.55
Climax *† [1]	60	22	39.7	1.40
Collbran	.....	.....	.....	0.45
Como (near) †	69	22	46.8	0.63
Cope †	94	35	65.2	0.00
Deer Trail *[8]	86	40	67.8	.....
Delta †	88	26	60.0	0.59
Divide Ex. Station	78	29	55.0 *[e]	0.83
Downing †	87	30	58.7	3.10
Dumont	76	28	54.8	2.06
First View *[6]	90	.....	62.3	.....
Fleming	.....	.....	.....	1.02
Fort Collins †	89	31	58.9	2.29
Garnett	.....	.....	.....	0.79
Glen Eyrie †	79	29	57.4	0.66
Gold Hill *[8]	78	34	56.2	2.95
Grand Junction †	86	34	63.9	0.62
Gunnison †	80	13	47.6	0.33
Holly †	.....	.....	.....	1.93
Hugo *[5]	88	48	68.0	.....
Hugo (near) †	85	25	56.4	1.19
Husted †	91	24	58.6	0.77
Julesburg †	93	33	63.9	0.56
Kit Carson *[1]	96	36	63.0	.....
La Jara †	85	30	57.4	0.80
Las Animas †	92	35	64.1	0.11
Lavender †	80	24	56.6	1.15
Lay *† [1]	92	30	53.0	1.00
Le Roy *† [1]	90 *[e]	32	62.3 *[e]	1.06
Leslie	.....	.....	.....	1.19
Loveland	.....	.....	.....	1.82
Meeker †	83	24	54.2	2.35
Minneapolis †	95	32	65.8	3.57
Monte Vista [b]	79	21	52.1	0.65
Moraine †	73	23	50.6	2.13
Pagoda (near) †	86	24	51.8	2.03
Parachute †	88	30	59.8	0.49
Rangely †	85	27	55.0	2.58
Red Cliff	.....	.....	.....	0.89
Rico	.....	.....	.....	0.93
Rocky Ford †	93	32	64.2	0.80
Ruby †	.....	.....	.....	1.82
Saguache †	80	22	54.4	0.47
San Juan †	80	17	48.5	1.25
San Luis †	84	21	54.1	1.20
Santa Clara *[1]	82 [j]	30 [j]	53.9 [j]	1.10
Seibert †	.....	.....	.....	0.00
Smoky Hill Mine †	84	29	56.4	2.60
Springfield †	.....	.....	.....	5.20
Spring Gulch †	.....	.....	.....	1.68
Stamford *[1]	76	24	44.9	0.28
Steamboat Spring †	87	18	53.2	0.90
Sunnyside	71 [d]	23 [d]	45.9 [d]	2.97
Surface Creek †	79	30	58.9	1.43
Thon †	92	31	60.0	1.11
T. S. Ranch †	80 [l]	31 [l]	60.3 [l]	0.80

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Colorado—Cont'd.	°	°	°	*Ins.*
Twin Lakes	.....	.....	.....	0.10
Vernon †	97	34	69.0	0.24
Vilas	.....	.....	.....	3.25
Wallet †	.....	.....	.....	T.
Ward District	.....	.....	.....	0.96
Yuma	.....	.....	.....	2.85
Connecticut.				
Bridgeport *[1]	85 [d]	46	65.8	5.86
Canton	90	37	66.6	5.58
Colchester	88	38	64.0	3.01
Falls Village	.....	.....	.....	4.44
Greenfield Hill	.....	.....	.....	4.68
Hartford *b*	.....	.....	.....	5.82
Hartford *c*	88	40	65.8	.....
Lake Konomoc	.....	.....	.....	2.09
Middletown	89	36	66.4	3.55
New Hartford *a* *† [1]	89	42	63.9	5.64
New Hartford *b*	.....	.....	.....	4.54
N. Grosvenor Dale	88	34	62.3	1.26
Norwalk	87	40	64.8	5.52
Southington *[1]	87	39	64.2	5.60
South Manchester	.....	.....	.....	2.37
Storrs	86	39	63.5	3.01
Thompson *[1]	84	40	63.1	.....
Voluntown †	89	37	64.7	2.30
Wallingford †	.....	.....	.....	4.88
Waterbury	86	39	65.6	5.35
West Simsbury	.....	.....	.....	5.71
Delaware.				
Dover †	89	48	69.7	4.61
Millsboro	93	51	70.7	4.82
Newark	90	42	68.2	8.89
Seaford †	94	48	70.4	2.58
Wilmington †	93	45	71.2	4.78
District of Columbia.				
Dist'ing Reserv'r *[8]	90	48	71.3	1.09
Rec'ing Reserv'r *[5]	91	47	71.0	1.72
West Washington	96	44	71.6	1.49
Florida.				
Amelia †	91	60	78.2	15.38
Avon Park †	95	65	80.4	11.16
Brooksville †	90	64	77.5	15.87
Clermont †	94	63	79.2	19.78
Eustis †	94	64	79.3	13.49
Federal Point †	92	62	77.2	19.19
Fort Meade †	90	64	78.4	14.65
Gainesville †	95	59	78.0	19.91
Grasmere †	91	62	78.7	15.71
Green Cove Sp'gs †	90	59	76.0	14.68
Homeland †	91	64	77.0	16.81
Hypoluxo *† [1]	92	75	81.2	17.75
Kissimmee †	100	64	80.4	16.20
Lake City †	93	61	78.6	6.70
Manatee †	94	63	78.2	7.60
Merritts Island †	92	72	79.6	15.77
Moseley Hall †	92	64	78.2	4.21
Mullet Key †	90	68	80.2	6.69
Myers †	91	69	79.2	9.89
New Smyrna †	90	63	77.8	15.07
Oak Hill *[1]	92	68	81.8	.....
Ocala *† [1]	91	60	76.3	14.42
Orange City *† [f]	96	62	79.7	11.60
Orange Park	91	59	77.7	17.02
Orlando †	95	65	80.4	.....
Plant City †	96	64	79.6	18.43
St. Francis B'ks	91	62	76.2	8.53
Tarpon Springs †	90	66	78.2	11.35
Georgia.				
Adairsville †	89	49	73.8	1.29
Alapaha †	94	58	77.0	7.41
Albany †	98	56	77.8	2.44
Americus †	98	58	77.6	2.06
Athens *a*	88	50	72.6	5.77
Athens *b* †	92	54	74.6	6.25
Bainbridge *a* †	93	59	77.2	2.67
Bainbridge *b* †	.....	.....	.....	2.52
Blakely *† [6]	93	60	76.6	1.74
Brag †	101	55	77.6	9.62
Camak †	91	57	74.4	3.15
Canton †	.....	.....	.....	5.67
Clayton †	85	46	69.8	1.98
Columbus †	94	59	77.6	1.77
Cordele †	92	58	76.4	3.64
Covington	90	55	73.8	2.48
Dahlonega †	86	50	70.8	3.75
Darien †	98	60	78.9	11.65
Diamond †	.....	.....	.....	2.36
Dublin *a* †	95 *[e]*	58 *[f]*	77.0 *[b]*	2.82
Dublin *b* †	.....	.....	.....	2.66
Eastman †	96	58	77.4	4.74
Elberton †	92	56	74.4	2.73
Fleming †	95	56	76.0	7.62
Forsyth *[1]	92	64	77.7	1.96
Fort Gaines †	90	58	76.2	2.71
Gainesville †	86	51	70.4	2.79
Gillsville *† [1]	90	58	72.2	2.39
Griffin †	84	54	70.8	2.75
Hawkinsville †	92	55	74.2	3.02
Hephzibah *† [8]	90	60	74.6	8.15
Lafayette †	88	50	72.4	3.44
Lagrange †	90	55	74.1	1.40
Louisville †	98	56	75.8	3.67
Macon *a* †	92 [d]	60 [d]	76.4 [d]	3.74
Marietta †	86	56	72.2	2.63
Marshallville †	92	61	77.0	2.92

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Georgia—Cont'd.	°	°	°	*Ins.*
Millen †	98	57	77.4	4.71
Monticello *† [1]	86	60	74.6	2.80
Morgan †	96	58	78.0	4.07
Newnan †	88	57	74.2	2.62
Piscola	.....	.....	.....	2.15
Point Peter *[1]	92	56	73.8	5.90
Poulan †	95	56	76.6	2.93
Quitman †	90	59	76.2	2.76
Ramsey †	90	48	73.6	1.16
Resaca †	.....	.....	.....	1.20
Reynolds †	.....	.....	.....	2.76
Rome †	88	51	74.4	2.77
Talbotton †	88	58	74.4	3.28
Thomasville †	94	59	78.2	4.44
Toccoa †	88	53	72.4	2.53
Union Point †	88	57	73.6	3.28
Washington †	91	58	74.0	3.30
Way Cross †	91	59	77.1	6.53
Waynesboro †	92	57	75.2	6.30
West Point †	91	56	74.7	3.02
Whitesburg †	.....	.....	.....	4.29
Idaho.				
American Falls †	84	22	56.4	0.89
Atlanta †	75	23	50.2	0.96
Boise Barracks †	86	31	59.2	0.40
Chesterfield †	83	15	50.4	1.00
Fort Sherman †	87	30	56.4	2.30
Fraser † [c]	83	32	54.2	2.97
Garden Valley † [d]	81	27	53.5	0.40
Grangeville	83	33	54.1	3.39
Hailey †	83	21	53.3	.....
Kootenai †	80	29	51.5	0.84
Lake †	66	27	45.6	0.72
Lewiston †	92	35	60.7	1.03
Martin †	76	22	51.3	0.10
Moscow †	85	32	53.8	0.90
Murray † [e]	82	28	51.6	3.60
Nampa	90	32	59.3	0.41
Oakley †	86	30	56.6	0.94
Paris †	83	22	54.3	2.12
Payette †	93	30	59.2	0.31
Salubria †	92	26	58.4	0.66
Swan Valley †	81	20	51.7	2.02
Illinois.				
Albion †	92	42	69.6	2.14
Aurora †	95	36	65.4	7.07
Beardstown †	.....	.....	.....	0.08
Bloomington †	102 [j]	30 [j]	67.1 [j]	5.59
Braidwood †	95	38	66.7	5.99
Bushnell †	97	41	68.6	6.86
Carlinville †	95	43	68.8	5.23
Carlyle	.....	.....	.....	4.97
Carrollton	90	46	68.7	3.76
Chemung †	95	34	63.2	8.33
Decatur †	93	39	68.4	2.94
East Peoria †	92	36	66.2	5.38
Effingham †	95	41	70.3	4.39
Evanston *[10]	88	42	67.6	.....
Fort Sheridan †	.....	38	.....	6.56
Galva †	95	36	66.2	5.17
Golconda †	89	46	72.4	1.80
Grafton †	.....	.....	.....	3.75
Greenville †	98	42	70.0	4.75
Griggsville †	95	43	68.9	2.78
Halliday *[8]	90 *[e]*	49 *[e]*	64.8 *[e]*	3.38
Havana †	93	44	69.0	3.67
Herrins Prairie *[1]	88	48	71.3	3.75
Jordans Grove †	92	42	68.8	3.91
Kankakee †	.....	.....	.....	8.44
Lagrange †	91	39	65.2	8.87
Louisville †	91	43	69.1	4.09
Martinsville †	91	37	67.8	1.70
Mascoutah *[5]	95	42	71.4	4.50
Mattoon *[1]	94	45	68.2	4.60
Monmouth †	96	37	66.5	5.61
Mount Carmel †	.....	.....	.....	2.34
Mount Pulaski	95	40	68.8	4.06
Olney *a* *[1]	93	42	70.5	2.42
Olney *b* *[1]	97	42	66.4	2.84
Oswego *[1]	94	32	63.4	7.35
Ottawa †	97 *[e]*	41 [d]	67.2 *[e]*	7.18
Palestine †	91	39	69.2	2.94
Paris †	93	37	67.9	3.78
Peoria *a* †	.....	.....	.....	4.03
Peoria *b*	95	42	68.6	4.42
Philo †	94	33	66.2	5.02
Rantoul *† [5]	94	38	67.2	5.21
Riley †	94	37	64.1	15.73
Rushville	94	42	68.6	8.32
St. John *[8]	92	50	68.4	2.66
South Chicago *[10]	92	43	68.4	.....
Sycamore *† [1]	90	34	63.0	7.88
Tuscola *† [1]	96	43	66.3	7.24
Walnut †	96	38	68.6	6.89
Warsaw †	.....	.....	.....	1.60
Winnebago †	93	31	64.6	5.15
Zion †	92	34	65.3	6.49
Indiana.				
Angola *[1]	98	36	67.2	5.18
Ashboro †	94	37	69.2	2.34
Bedford †	95	41	70.3	1.85
Butlerville †	97	33	70.4	1.29
Cambridge City †	91	30	64.4	3.99
Columbia City *[1]	91	40	65.0	4.04
Columbus †	95	42	71.2	2.80

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Indiana—Cont'd.	°	°	°	*Ins.*
Connersville †	91	35	67.3	2.83
Crawfordsville †	90	34	66.6	3.04
Degonia Springs *[6]	92	42	71.4	1.20
Delphi	95	40	68.3	5.92
Evansville †	96	40	72.8	1.89
Farmland †	90	35	66.2	3.14
Franklin *[1]	88 *[e]*	42 *[e]*	67.2 *[e]*	1.70
Hammond †	96	36	63.8	7.36
Hawpatch †	98	30	63.0	2.80
Huntingburg †	94	38	69.6	0.88
Huntington	91	38	66.0	2.88
Jasper †	91	38	71.3	0.70
Jeffersonville	92	42	71.6	1.99
Kokomo †	92	37	67.7	2.82
Lafayette †	94	35	67.1	6.63
Logansport *b*	91	38	66.9	3.66
Madison †	93	40	68.8	3.83
Marengo *[1]	94	39	70.1	4.00
Marion †	93	32	67.2	2.95
Markle †	91 *[g]*	33 *[g]*	63.5 *[g]*	3.37
Mauzy †	94	35	68.2	4.73
Mount Vernon †	91	40	71.5	1.52
Muncie † [d]	93	43	71.4	.....
New Albany *† [1]	90	47	72.6	1.57
Plymouth †	95	38	67.7	6.43
Princeton *† [1]	95	47	69.9	1.65
Rockville †	92	35	67.9	2.47
Rushville †	.....	.....	.....	3.81
Scottsburg *[1]	92 *[e]*	37	69.1 [d]	2.88
Seymour †	95	40	70.2	1.56
Shelbyville †	95 *[g]*	39 *[g]*	68.6 *[g]*	2.92
South Bend †	92	41	66.7	4.88
Terre Haute †	92	41	70.8	1.94
Valparaiso †	93	.....	.....	8.70
Vevay	96	41	72.1	2.14
Vincennes †	95	37	70.2	2.29
Worthington †	90	38	66.6	2.10
Indian Territory.				
Eufaula †	.....	.....	.....	0.60
Healdton †	106	50	78.0	2.09
Kemp †	99	52	76.1	2.75
Lehigh †	99	53	74.4	6.61
Purcell †	105	47	76.8	0.81
Tahlequah †	103	46	75.0	5.86
Tulsa †	.....	.....	.....	2.15
Iowa.				
Afton	97	40	68.4	3.51
Albia	97	34	66.0	3.91
Algona *[1]	92	38	63.0	1.28
Alta †	92	34	64.6	1.14
Amana †	93	35	64.6	4.05
Ames *b*	95	31	64.9	3.84
Ames *c*	.....	.....	.....	3.03
Atlantic †	91	32	64.4	3.99
Audubon	93	35	63.6	5.27
Belle Plaine	96	33	64.3	3.88
Bonaparte †	99	41	68.3	7.51
Cedar Falls †	94	30	64.7	2.47
Cedar Rapids †	91	38	65.3	3.86
Charles City †	94	32	62.3	4.15
Clarinda †	91	40	66.4	2.53
Clinton	94	56	65.4	5.26
College Springs	93	36	68.4	2.06
Corning †	90	33	65.8	3.13
Cresco †	94	34	62.9	3.16
Decorah †	95	31	62.3	4.06
Delaware *[8]	94	37	61.4	3.48
Elkader †	98	28	64.5	3.04
Emmetsburg	95	32	63.6	2.19
Fairfield †	94	39	66.0	7.30
Forest City	95	33	63.1	2.91
Fort Madison *† [1]	94	46	69.5	4.94
Galva †	93 [k]	30 [k]	65.5 [k]	1.19
Glenwood †	96	34	68.6	2.79
Grand Meadow *[1]	90	38	61.5	3.21
Grundy Center	93	32	64.4	2.16
Hampton	93	33	62.6	2.40
Hopeville †	93	40	66.7	3.48
Hopkinton *[5]	88	38	64.8	4.39
Humboldt †	.....	.....	.....	1.87
Independence †	93	33	64.4	1.19
Indianola †	95 *[e]*	36 *[e]*	66.6 *[e]*	4.53
Iowa City †	96	37	66.2	4.96
Iowa Falls †	94	28	61.2	1.57
Jefferson †	95	33	65.4	2.58
Keosauqua †	95	44	68.5	7.43
Knoxville	94	37	66.6	5.09
Larrabee †	94	31	64.6	1.03
Le Claire †	.....	.....	.....	3.92
Logan †	96	35	65.3	2.22
Marshall †	95	31	63.6	2.38
Maxon *[1]	96	42	67.1	4.50
Mechanicsville	93	38	64.4	5.16
Monticello *† [1]	91	32	62.8	3.35
Mooar	100	36	66.3	4.05
Mount Pleasant *[8]	87	.....	65.8	6.92
Newton	92	36	65.8	2.23
North McGregor †	.....	.....	.....	2.70
Ogden	95	35	66.0	2.44
Osage *† [8]	.....	35	58.6	4.11
Osceola	92	40	65.7	6.67
Oskaloosa †	95	33	65.8	3.80
Ottumwa	97	42	68.1	5.75
Ovid †	96	39	68.1	4.94
Panama †	93	36	65.8	2.94

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Iowa—Cont'd.	°	°	°	*Ins.*
Richland *[1]	99	42	64.7	6.16
Rock Rapids	90	26	64.9	0.59
Rockwell City	.....	.....	.....	1.37
Sac City †	91	33	63.6	2.25
Seymour †	97	38	68.5	5.93
Sibley	93	28	62.6	2.57
Spirit Lake †	96	31	65.2	1.39
Sutherland	94	32	63.8	2.20
Toledo *[1]	94	34	69.8	2.61
Villisca †	92	34	65.6	2.64
Vinton *[1]	94	35	63.4	3.46
Washington †	96	38	66.2	6.15
Webster City *[1]	96	35	63.7	2.15
Williams *[1]	94	40	62.2	2.66
Winterset †	96	35	66.3	5.72
Kansas.				
Abilene †	96	34	70.0	3.10
Achilles *[1]	97°	41°	66.6°	2.25
Allison *† [2]	94	34	63.2	1.51
Altoona *† [2]	91	40	71.4	5.03
Atchison †	95	38	68.5	5.89
Beloit †	98	32	68.0	2.05
Blaine *[1]	98	40	64.2	2.93
Burlington †	98	43	70.6	5.13
Coffeyville *[1]	99	46	73.5	6.37
Colby †	93	33	65.2	1.15
Coldwater †	102	45	70.2	1.75
Columbus †	95	39	69.0	9.44
Coolidge †	96	35	64.7	1.90
Cunningham †	99[d]	32[d]	68.0[d]	3.32
Downs	.....	.....	.....	0.86
Eldorado †	100	30	71.4	7.59
Elk City *[1]	96	44	71.2	8.54
Emporia †	94	40	68.3	2.70
Englewood †	107	30	67.0	3.04
Eureka Ranch †	101	31	68.4	1.13
Fort Riley †	92	37	68.4	3.20
Garden City †	91	36	65.8	0.65
Garfield	.....	.....	.....	2.80
Gibson *[1]	98	34	65.8	2.30
Gove *† [1]	100	35	67.3	1.26
Grainfield *[2]	100	48	74.1	1.40
Grenola *[1]	100	41	70.7	6.70
Halstead *	94	34	67.4	5.67
Hays City †	95	36	64.4	1.65
Horton †	93	39	68.8	4.94
Hutchinson †	103	36	70.0	3.27
Independence †	100	41	72.5	8.18
Ionia †	96	31	68.1	2.86
Jaqua †	95	32	65.5	0.30
Johnson †	98	35	67.2	2.62
Kiowa †	102	36	69.8	7.11
Lakin †	95	33	69.2	1.80
Lebo †	98	36	69.7	4.94
Leoti †	90	34	65.3	1.39
Macksville †	103	42	69.6	3.00
McPherson †	97	35	68.9	4.79
Manhattan *[1]	100	32	65.3	3.16
Marion †	97	34	68.4	3.10
Marmaton	96	37	68.3	5.99
Medicine Lodge	.....	.....	.....	3.49
Minneapolis †	99	32	68.6	4.12
Morland †	98	30	67.2	0.87
Morton †	97	37	67.0	3.84
Mount Hope *[1]	98	42	70.6	3.56
Ness City †	99	47	71.8	1.53
New Eng. Ranch †	94	30	63.5	0.86
Oberlin †	.....	.....	.....	0.64
Olathe †	96	38	68.4	6.65
Oswego †	97	33	68.4	6.74
Phillipsburg †	98	32	68.8	2.88
Pleasant Dale †	97	29	68.0°	0.89
Quinter *[1]	98	48	70.4	.....
Rome *† [1]	102	38	71.0	4.90
Sedan †	99	43	72.4	6.95
Sharon Springs *[1]	104	50	69.8	0.20
Topeka	93	34	70.2	3.18
Tribune †	92	35	66.0	1.55
Ulysses †	100°	38[b]	68.2[g]	2.11
Wa Keeney *[1]	98	50	69.4	0.50
Wakefield *[1]	98	40	69.9	3.22
Wallace	.....	.....	.....	0.25
Wamego *[1]	96	38	68.7	3.93
Washington †	100	30	68.6	1.19
Wellington *[1]	101	46	73.9	1.94
Westmoreland † [2]	.....	.....	71.7	3.55
Winfield *[2]	104	36	71.9	4.74
Winona *[2]	95	48	66.1	T.
Yates Center †	95	38	69.0	8.66
Kentucky.				
Alpha *† [1]	93	50	76.2	1.96
Blandville	89	45	71.2	2.69
Bowling Green a *[1]	95	37	68.7	3.32
Bowling Green b †	93	43	73.0	3.28
Caddo *† [1]	96	42	71.3	1.50
Canton *† [1]	93	42	71.0	2.66
Carrollton †	96	38	72.2	4.89
Catlettsburg *† [5]	92	50	71.8	3.74
Cromwell †	.....	.....	.....	1.23
Eddyville *† [1]	86	53	70.1	2.56
Edmonton †	87	44	70.0	3.91
Eubank †	94	41	71.9	3.46
Falmouth †	.....	.....	.....	1.46
Fords Ferry †	98	42	73.3	1.25
Franklin *† [1]	95	52	73.0	2.77
Greendale *[1]	92	45	71.2	2.14
Greensburg *† [1]	91	42	69.8	2.64
Harrodsburg †	93	39	71.0	2.12
Henderson †	92	47	73.1	3.33
Louisa †	.....	.....	.....	2.22
Marrowbone †	95	37	70.3	2.46
Matlock *[1]	92	56	74.0	3.60
Middlesboro †	90	44	67.7	2.04
Mount Sterling †	90	42	68.6	1.47
Munfordville *† [1]	89	43	73.4	2.55
Paducah b †	95	47	74.1	2.87
Pellville †	98	39	73.0	1.09
Russellville †	95	42	74.6	3.69
Sandy Hook †	94	37	69.0	1.64
Shelby City *[1]	90	45	70.2	2.12
Shelbyville †	98	37	72.4	1.90
South Fork † [2]	.....	.....	67.7	3.17
Springfield †	97	41	71.1	4.62
Williamsburg †	.....	.....	.....	1.57
Louisiana.				
Abbeville	94	55	78.2	3.10
Alexandria †	96	48	75.0	3.24
Amite †	92	51	77.7	4.96
Bastrop †	92	48	74.8	0.79
Baton Rouge †	94	54	78.5	4.50
Calhoun †	92	45	75.1	2.03
Cameron †	96	64	81.6	10.45
Cheneyville †	96	46	76.3	1.80
Clinton †	90	50	76.0	3.96
Coushatta a †	.....	.....	.....	1.51
Coushatta b †	94	48	75.9	1.21
Covington †	92	52	77.2	3.65
Delhi †	.....	.....	.....	3.01
Donaldsonville †	95	59	80.0	3.88
Emilie †	91	59	77.6	2.70
Farmerville	92	50	74.8	2.12
Franklin †	94	56	78.4	3.36
Girard †	97	49	76.8	2.01
Grand Coteau	92	57	77.1	5.01
Houma †	93	01	81.3	2.87
Jeanerette †	96	54	78.4	5.89
Lafayette †	95	54	78.4	5.16
Lake Charles †	94	56	78.8	3.47
Lake Providence †.	91	47	74.0	3.80
Lawrence †	92°	63°	79.1°	2.70
Liberty Hill	96	48	77.0	1.76
Maurepas	94	57	78.9	4.66
Melville †	95	53	77.9	4.88
Minden †	98	50	77.7	0.93
Monroe †	92	52	76.6	2.36
Natchitoches †	95	45	74.8	0.46
New Iberia	91	58	77.9	5.11
Oberlin †	94	50	75.6	2.23
Opelousas †	98	52	77.4	8.65
Oxford †	91	46	74.3	1.77
Paincourtville †	94	53	78.8	5.00
Plain Dealing †	92g	52	79.9g	1.72
Rayne †	96	57	78.9	7.04
Roseland	92	53	77.8	2.72
Schriever †	94	57	78.6	4.89
Shell Beach	91	59	77.4	6.07
Sugar Ex. Station †.	92	60	78.7	1.80
Sugartown †	91°	50°	73.0°	5.33
Thibodeaux	.....	.....	.....	4.48
Wallace	90	59	77.8	3.82
West End	.....	.....	.....	0.94
Winnsboro	92	52	76.6	1.20
Maine.				
Bar Harbor	82	37	60.4	4.17
Belfast *[6]	78	41	58.4	4.61
Calais †	.....	.....	.....	3.13
Cornish *[1]	87	34	60.0	5.24
Easton †	80	28	56.8	6.52
Fairfield	79	28	58.6	3.82
Farmington †	88	25	60.2	5.73
Gardiner	87	35	60.2	3.81
Houlton †	79	27	56.4	2.48
Lewiston	84	33	61.3	4.48
Madison *[1]	88	40	61.0	4.81
Mayfield	80	32	57.5	5.71
North Bridgeton	87	34	60.4	5.90
Orono †	90	27	59.2	3.40
Petit Menan *[1]	73	45	56.1	.....
West Jonesport *[1]	76	34	56.4	.....
Maryland.				
Annapolis	86	40	70.2	1.53
Bachmans Val. *[1]	90	40	66.8	7.87
Bel Alton	97	50	73.3	1.47
Boettcherville *[1]	94	38	67.9	2.40
Charlotte Hall †	99	47	72.2	2.04
Cherryfields † [2]	.....	.....	72.6	3.69
Chestertown †	90	44	69.8	3.83
College Park	96	44	69.8	1.65
Cumberland a †	94	36	68.8	1.74
Cumberland b	92	42	71.2	1.97
Darlington †	89	41	68.2	7.04
Denton †	95	46	72.3	2.65
Easton †	92	45	71.6	3.99
Fallston *[1]	89	43	68.2	3.68
Fenby *[1]	86	44	68.8	4.00
Frederick	93	43	70.4	3.02
Grantsville	80	31	64.6	2.87
Great Falls *[5]	90	46	70.8	2.68
La Plata †	97	48	71.8	0.96
McDonogh	88[l]	44[l]	72.2[l]	.....

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Maryland—Cont'd.	°	°	°	*Ins.*
Mardela Springs †	93	46	71.5	2.66
Mt. St. Marys Col † [m]	87	44	63.3	4.36
Oakland †	82	82	61.2	2.80
Pocomoke City	92	52	72.1	1.91
Popes Creek	98	46	71.6	1.20
Princess Anne	92	47	71.6	2.66
Solomons †	95	53	73.8	1.94
Sunnyside	88	29	62.2	3.00
Taneytown †	.....	.....	.....	7.70
Upper Marlboro †	98	46	70.7	1.16
Woodstock	91	40	68.6	1.45
Massachusetts.				
Adams	83	40	63.4	.....
Amherst	89	32	63.5	4.71
Amherst Ex. St'n a.	91	32	63.7	4.11
Amherst Ex. St'n b.	91	35	65.5	4.63
Andover	89	32	64.5	2.71
Ashland	.....	.....	.....	2.49
Bedford	88	35	63.1	2.41
Beverly Farms	85	39	61.4	2.14
Blue Hill (sum't)	86	38	63.9	2.69
Blue Hill (valley)	89	35	62.8	2.64
Boston	.....	.....	.....	1.55
Brockton a	90	41	64.9	2.85
Brockton b	.....	.....	.....	2.93
Brockton c	.....	.....	.....	3.36
Cambridge a	90	37	65.0	2.42
Cambridge b	88	40	62.2	2.40
Chestnut Hill	90	40	65.2	2.50
Clinton	.....	.....	.....	1.35
Concord †	92	36	63.0	2.21
Dudley	92	42	65.4	2.23
East Templeton *[1]	87	39	62.3	3.68
Egg Rock, Nahant	80	42	61.8	.....
Fall River *[1]	85	42	64.4	4.76
Fiskdale	.....	.....	.....	2.47
Fitchburg a *[1]	86	40	62.1	3.55
Fitchburg b	90	35	63.2	3.97
Framingham	90	31	63.8	2.78
Groton	88	34	62.0	3.85
Hingham	.....	.....	.....	2.87
Hyannis	85	50	67.2	2.94
Kendall Green	92	40	64.6	2.56
Lake Cochituate	92	32	62.8	2.27
Lawrence	86	39	65.0	2.80
Leeds	89	31	63.1	4.36
Leominster *[6]	80	39	64.6	3.99
Long Plain *[6]	83	43	65.6	3.12
Lowell a	88	37	64.5	3.03
Lowell b	90	34	63.2	.....
Lowell c	92	38	66.0	.....
Ludlow Center	86	31	61.8	3.42
Lynn a	84	38	62.3	1.88
Lynn b	87	40	64.4	.....
Mansfield *[1]	88	35	62.1	3.80
Middleboro	87	35	63.4	3.22
Milton	84	37	61.6	2.46
Monson	89	32	63.9	2.78
Mount Monotuck	.....	.....	.....	4.12
Mystic Lake	.....	.....	.....	2.52
Mystic Station	.....	.....	.....	3.04
Natick *[1]	87	41	64.0	1.97
New Bedford a	80	44	64.6	2.83
New Bedford b	84	40	64.4	2.91
Newburyport	.....	.....	.....	4.54
North Billerica	89	37	64.4	2.70
Pittsfield	84	34	61.6	5.91
Plymouth *[1]	84	52	68.2	2.37
Provincetown	84	49	65.7	1.90
Randolph	.....	.....	.....	2.78
Roberts Dam	.....	.....	.....	2.17
Roxbury	86[b]	41[b]	64.2[b]	2.16
Salem	.....	.....	.....	2.28
Salisbury	.....	.....	.....	4.10
Somerset	92	41	69.6	4.12
South Dennis	83[l]	46[l]	66.8[l]	0.97[l]
Springfield Arm'ry.	90	38	66.0	5.41
Taunton b	88	41	64.9	3.29
Taunton c	89	35	64.2	3.98
Taunton d	90	34	64.6	3.17
Wakefield †	87	42	63.9	2.40
Webster	.....	.....	.....	2.05
Westboro †	86	34	62.0	2.20
Williamstown	83	32	61.0	4.58
Winchendon	.....	.....	.....	7.09
Winchester	.....	.....	.....	1.97
Winthrop	88	39	64.2	1.68
Worcester a	85	34	63.3	2.59
Worcester b	85	38	63.5	3.16
Worcester c *[1]	87	38	62.5	.....
Michigan.				
Adrian	91	32	65.4	5.50
Allegan	96	34	66.2	2.82
Alma	95	32	63.2	7.14
Ann Arbor [1]	92*	37	64.1	3.66
Arbela [2]	.....	.....	60.5	3.02
Ball Mountain	92	34	63.3	3.98
Benton Harbor	91	40	65.7	4.55
Berlin *[1]	99	32	64.0	3.09
Berrien Springs a *[1]	98	44	66.3	5.27
Birmingham	93	34	65.2	1.35
Bois Blanc *[10]	90	32	61.2	.....
Boon	92°	28	59.2°	2.68
Bronson	95°	30°	65.0°	3.33
Calumet	90	38	59.2	2.71

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Michigan—Cont'd.	°	°	°	*Ins.*
Charlevoix	90	34	62.3	4.23
Cheboygan	92	25	59.6	2.44
Clinton	98	29	65.5	2.64
Crisps *[10]	89	35	59.1	.....
Fairview	94	36	64.6	2.51
Fitchburg	95	31	62.8	2.45
Flint	96	29	62.6	3.03
Frankfort *[10]	81	46	65.7	.....
Gladwin	92	30	59.3	3.08
Grand P'tau Sable *[10]	84	34	59.1	.....
Grand Rapids	95	40	64.7	3.45
Grape	89	33	64.9	4.32
Grayling	92	28	59.3	2.75
Grindstone City *[10]	90	38	62.2	.....
Hammonds Bay *[10]	94	36	60.8	.....
Hanover	91	37	65.2	4.26
Harbor Springs	88	29	60.8	2.52
Harrisville	97	30	60.6	3.17
Hart	80	33	58.0	3.40
Hesperia	94	29	59.6	3.48
Holland *[10]	84	45	66.6	.....
Howell	97	29	66.6	2.58
Jeddo	95	34	64.3	2.26
Kalamazoo	92	37	64.9	1.64
Lansing	93	35	63.2	2.76
Lathrop *[1]	96[d]	26[d]	57.4[d]	3.38
Lewiston	93	28	62.2	3.31
Lodi	93	34	61.3	3.79
Ludington *[10]	85	40	62.6	.....
Madison	91	34	64.7	4.07
Manistee *[10]	82	40	62.8	.....
Mayville	97	32	64.2	3.70
Middle Island *[10]	84	40	60.0	.....
Montague *[10]	86	40	63.1	.....
Mottville	97	38	66.2	5.36
Muskallonge L. *[10]	88	36	59.0	.....
N. Manitou Isl'd *[10]	90	41	62.1	.....
North Marshall	92	32	62.4	2.15
Northport	90	.....	.....	3.45
Old Mission	92	40	62.8	2.59
Ottawa Point *[10]	82	35	62.1	.....
Ovid	94	35	63.4	3.00
Parkville	.....	.....	.....	4.09
Pentwater *[10]	86	50	67.5	.....
Pte aux Barques *[10]	96	41	65.0	.....
Point Betsey *[10]	79	49	64.4	.....
Pontiac	93	36	63.4	5.11
Rawsonville *[1]	92	36	65.4	3.57
Rockland	93[d]	32[d]	60.9[d]	2.70
St. Ignace	83	28	58.1	2.04
Sand Beach a	93	34	64.0	3.12
Sand Beach b *[10]	82	40	62.8	.....
Ship Canal *[10]	90	37	64.2	.....
Stanton	94	34	62.6	6.47
Sturgeon Point *[10]	83	35	60.6	.....
Thornville	97	36	66.6	2.91
Thunder Bay I'd *[10]	86	40	61.4	.....
Two Heart River *[10]	90	32	58.3	.....
Vandalia	93	41	66.2	4.57
Vermillion Pt. *[10]	85	28	53.1	.....
Ypsilanti	96	29	63.4	3.07
Minnesota.				
Ada †	100	28	57.6	1.02
Airlie †	92	28	61.8	1.87
Alexandria a †	.....	.....	.....	1.16
Alexandria b	96	28	59.4	.....
Beardsley †	98	21	62.2	1.17
Belle Plaine *[1]	96	34	60.4	2.50
Bird Island	93	28	61.6	1.65
Blooming Prairie *[1]	94	32	62.5	2.95
Bonniwells Mills †	97	32	63.3	2.69
Caledonia †	91	32	61.8	5.14
Cambridge †	94	28	60.4	1.47
Camden †	94	29	60.4	3.08
Campbell	96	23	59.2	0.99
Carver †	.....	.....	.....	1.75
Clear Lake †	94	29	60.1	1.66
Clearwater *[1]	95	31	58.9	2.92
Collegeville	95	32	63.5	1.06
Crookston †	97	24	56.7	1.18
Dawson *[1]	99[f]	29[e]	66.3[f]	2.90
Farmington †	95	32	62.2	1.88
Fergus Falls †	92	28	60.7	0.97
Fort Ripley †	.....	.....	.....	2.13
Grand Meadow †	95	30	61.8	2.97
Hutchinson *† [1]	94	34	62.2	1.90
L Winnibigoshish *[1]	90	34	57.8	2.50
Leech Lake *[1]	90	31	57.3	2.91
Long Prairie †	95	28	61.4	1.41
Luverne †	90	29	62.2	1.78
Maple Plain	95	33	63.0	2.10
Marfield †	90	23	54.8	4.64
Mazeppa [1]	96*	26	61.6	2.70
Milan †	98	26	62.1	1.05
Minneapolis a †	96	34	63.2	1.20
Minneapolis b [1]	97*	33	61.8	1.32
Minnesota City †	94	28	62.6	2.10
Montevideo †	97	28	63.8	1.09
Morris †	95	26	60.6	1.05
New Richland *[1]	92	32	63.0	.....
New Ulm	92	37	64.6	3.00
Ortonville †	.....	.....	.....	1.33
Park Rapids †	94	25	58.2	1.59
Pine River *[1]	90	35	58.9	2.98
Pokegama Falls [1]	87*	12	55.0	3.57

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Minnesota.—Cont'd.	°	°	°	*Ins.*
Red Lake †‖	96	31	58.2	1.98
Red Wing †	.....	.....	.....	2.54
Redwood Falls †	.....	.....	.....	1.85
Rolling Green †	89	33	61.4	4.45
St. Charles †	94	29	62.4	3.15
St. Cloud	94	32	61.8	2.12
St. Olaf	96	32	61.3	0.87
St Peter †	94	32	63.0	1.38
Sandy Lake Dam *‖	90	29	57.0	0.54
Sauk Center ‖	93	30*	59.8	1.10
Sunrise City *6	96	27	60.2	0.75
Two Harbors †	89	31	58.2	2.54
Wabasha *‖	97	31	63.4	2.61
Willmar †	92	26	59.9	1.15
Winona	96	35	65.2	1.93
Worthington	89	33	61.2	1.77
Mississippi.				
Aberdeen †	91	49	75.1	2.72
Agricultural Col'ge.	89	52	74.9	1.68
Batesville †	89	44	73.2	2.06
Bay St. Louis †	90	57	78.5	2.40
Biloxi †	92	61	78.4	5.09
Briers	88	54	74.4	4.56
Brookhaven †	95	46	77.0	2.56
Canton †	88	53	75.1	5.64
Clarksdale †	90	54	75.4	2.33
Columbus †	93	51	76.6	2.14
Corinth †	90	44	73.2	0.67
Crystal Springs †	91	51	75.2	4.87
Duck Hill †	89	50	74.0	4.39
Edwards	92	55	76.8	5.00
Egypt *‖	88	51	73.7	.....
Enterprise †	90	53	75.2	4.96
Fayette †	88	52	75.0	2.05
French Camps †	84	43	68.1	4.04
Greenville *a*	91	54	74.7	1.77
Greenville *b* †	96	49	75.9	1.17
Hattiesburg †	93	51	77.6	2.49
Hazlehurst †	93	51	76.5	3.02
Hernando †	90	46	74.4	2.56
Holly Springs †	89	47	73.3	1.74
Jackson †	93	52	76.8	4.08
Kosciusko †	91	50	73.8	6.17
Lake †	89	51	74.6	1.34
Leaf *‖	88	58	74.1	.....
Leakesville †	94	55	77.7	2.05
Leonia *‖	94	59	73.1	5.28
Logtown †	91	56	77.6	4.26
Louisville †	91	49	74.1	1.82
Macon †	94	52	76.0	3.13
Mayersville	95	45	74.0	4.40
Moss Point †	90	63	77.8	3.55
Natchez †	92	52	76.6	3.47
Okolona †	92	49	75.0	2.75
Palo Alto †	89	52	75.0	2.68
Pontotoc †	89	51	74.6	3.88
Port Gibson †	94	47	76.2	5.32
Stonington *‖	90	56	76.6	.....
Thornton *†‖	90	52	75.6	2.90
Topton *‖	88	60	74.6	3.40
Vaiden †	99	48	77.4	3.27
Water Valley *‖	96	49	73.4	4.81
Waynesboro *a* †	98	53	75.1	4.60
Waynesboro *b* †	94	55	77.6	5.12
Woodville †	94	57	77.5	5.75
Yazoo City †	94	48	75.6	2.62
Missouri.				
Akron	.....	.....	.....	3.33
Appleton City †	95	41	69.0	3.87
Arthur	.....	.....	.....	0.90
Bagnell †	.....	.....	.....	5.96
Bethany	93	36	68.4	2.79
Big Piney	.....	.....	.....	1.90
Birch Tree	93	42	69.1	3.59
Bluffton *‖	98	48	70.2	4.04
Boonville †	.....	.....	.....	5.93
Brunswick	92	41	69.8	3.51
Carollton †	91	42	69.3	5.31
Carthage	.....	.....	.....	6.32
Conception	98	38	68.4	3.30
Cowgill *§	92	40	69.9	3.40
Darksville †	101	41	69.8	2.52
Downing	.....	.....	.....	3.86
East Lynne *§	.....	39	63.0	6.11
Edge Hill *§	88	44	67.1	5.03
Eight Mile *‖	89	36	66.2	5.65
Eldon *‖	94	48	69.6	5.58
Elmira	99	34	69.6	3.06
Emma *²	.....	48	70.4	8.51
Fairport	.....	.....	.....	3.28
Farmersville	.....	.....	.....	2.80
Fayette	97	43	71.1	7.12
Fox Creek *‖	90	46	68.5	3.56
Fulton	.....	.....	.....	3.53
Gallatin *‖	96	39	68.1	2.27
Gayoso *§	.....	42	69.6	3.37
Glasgow	96	41	69.0	4.33
Glensted	.....	.....	.....	5.95
Gordonville *§	.....	44	66.6	5.40
Gorin *§	97	45	66.4	3.45
Greenville	98	37	70.2	2.65
Grove Dale	96	34	64.7	4.30
Half Way	93	43	68.4	6.17
Harrisonville †	99	39	71.1	7.16
Hermann †	.....	.....	.....	4.69

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Missouri—Cont'd.	°	°	°	*Ins.*
Houston	92	37	65.4	3.90
Houstonia (near)	.....	.....	.....	0.98
Ironton *†‖	87	46	66.2	5.17
Kidder	96	38	68.3	6.01
Lamar	98	42	69.5	9.21
Lamonte	.....	.....	.....	6.18
La Plata *‖	92	46	67.3	2.34
Lebanon	93	45	69.9	5.41
Lexington †	91	42	68.2	6.09
Liberty	98	39	71.2	4.84
Louisiana Bridge †	.....	.....	.....	3.14
McCune *†‖	95	40	67.7	6.62
Marceline	.....	.....	.....	6.02
Marshall †	96	39	68.8	6.07
Maryville *⁴	91	38	63.6	5.70
Mexico †	97	39	67.3	6.67
Miami	94	46	70.0	5.15
Mine La Motte †	89	42	67.8	6.84
Mount Vernon	98	40	68.6	5.78
Nevada	.....	.....	.....	6.55
New Hartford *‖	98	48	71.7	4.33
New Haven *‖	96	48	69.8	4.23
New Madrid	92	42	72.0	4.44
New Palestine	.....	.....	.....	6.12
Oakfield †	93	44	68.8	3.54
Oak Ridge *⁴	97	46	69.4	4.50
Olden †	91	41	70.2	5.79
Oregon *a*	92	40	69.2	3.65
Oregon *b*	92	38	68.7	3.68
Palmyra	.....	.....	.....	3.95
Panacea	90	43	68.8	7.75
Phillipsburg *† ‖	94°	43	67.9[d]	3.78
Pickering *§	.....	38	66.5	3.52
Platte River *§	90	38	63.2	4.82
Poplar Bluff	89	43	69.8	2.72
Potosi	89	35	64.3	4.74
Princeton *‖	94	41	67.6	3.28
St. Charles	92	43	67.8	2.77
St. Joseph †	.....	.....	.....	3.24
Sarcoxie *§	.....	48°	67.8°	5.27
Sedalia	95	38	69.4	0.76
Sheibina	.....	.....	.....	2.60
Sikeston	92	41	71.1	3.75
Steffenville	.....	.....	.....	3.22
Stellada †	94	41	68.2	7.48
Sublett	95	38	65.8	3.48
Tindall †	.....	.....	.....	3.39
Unionville †	98	39	69.8	4.44
Vermont *†‖	93	46	67.4	6.50
Vilas	.....	.....	.....	2.43
Virgil City	.....	.....	.....	5.93
Warrensburg *‖	92	47	68.9	6.11
Warrenton	93	43	68.5	4.58
Wheatland	.....	.....	.....	6.37
Whiteside	90[e]	42[e]	64.8[e]	4.00
Montana.				
Anaconda †	.....	.....	.....	1.71
Billings †	87	35	59.2	1.27
Boulder †	77	25	51.0	1.99
Bozeman †	74	32	52.6	2.16
Butte †	77	27	51.2	1.41
Cascade †	.....	.....	.....	1.74
Cokedale *⁴	78	23	49.2	1.44
Columbia Falls †	81	25	49.8	2.47
Fort Custer †	90	27	55.4	1.41
Fort Keogh	94	26	56.8	0.43
Fort Logan †	76	26	47.4	1.28
Fort Missoula	80	25	51.2	1.32
Glasgow †	93	19	56.0	0.22
Glendive †	98	26	58.8	0.57
Great Falls †	80	30	54.0	0.52
Hogan †	80	25	51.2	1.62
Kipp †	83	16	48.6	1.64
Martinsdale †	79	21	49.2	1.26
Marysville †	76	27	50.1	1.17
Mingusville †	95°	17°	57.2°	0.85
Radersburg †	.....	.....	.....	1.05
Red Lodge †	.....	.....	.....	1.16
Utica †	83	31	54.7	1.32
Virginia City †	75	27	50.8	2.73
White Sul. Sp'gs †	83	26	50.9	1.46
Nebraska.				
Agee *‖	99	32	63.0	1.78
Ansley †	98	31	65.2	1.64
Arborville *‖	100	35	67.5	0.56
Ashland †	93	31	67.8	0.52
Bassett	94	28	62.5	1.60
Beatrice †	97	32	68.5	3.03
Beaver City	93	34	65.7	2.98
Bratton *‖	88	40	67.6	4.81
Burwell *‖	94	52	69.8	1.90
Callaway †	.....	.....	.....	0.40
Chadron *‖	110	28	63.9	0.57
Chester *‖	101	35	67.1	1.30
Columbus †	91	33	66.6	0.48
Cornlea	.....	.....	.....	0.60
Cortland *‖	95	40	67.1	3.94
Creighton † ‖	95*	29	63.7	4.16
Crete	94	34	66.5	1.84
Culbertson	.....	.....	.....	0.13
Curtis *† §	97	32	64.6	T.
David City *† §	92	37	62.6	0.70
Elba	.....	.....	.....	0.80
Ericson *† ‖	98	37	68.8	1.68
Ewing †	.....	.....	.....	2.20

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Nebraska—Cont'd.	°	°	°	*Ins.*
Fontanelle	93	33	67.1	1.68
Fort Robinson	90	25	60.3	1.16
Franklin †	98	32	67.2	1.61
Geneva †	100	32	66.3	2.89
Genoa †	95	34	67.4	0.46
Gering †	92	30	62.5	0.90
Glenwood	.....	.....	.....	0.52
Gothenburg	96	32	67.6	1.10
Haigler	.....	.....	.....	T.
Hartington †	94	29	65.3	0.55
Harvard *‖	96	36	65.8	2.05
Hay Springs †	93	28	59.9	0.81
Hebron †	100	31	67.8	1.74
Imperial *‖	95	42	66.2	0.20
Indianola *§	96	32	66.4	0.33
Kennedy *† ‖	95	36	62.5	0.46
Lexington †	92	28	64.8	1.86
Lincoln	92	36	68.0	3.01
Lodge Pole †	.....	.....	.....	0.25
Lynch *† ‖	99	31	65.8	1.20
Madrid *† §	96	31	63.7	0.40
Marquette *	94	34	.....	0.77
Minden *‖	91	37	64.9	2.14
Mullen *† ‖	88	38	62.1	.....
Nebraska City *† ‖	85	39	65.0	6.42
Norfolk †	91	33	65.5	0.49
North Loup † ‖	92*	29	67.0	1.95
Oakdale †	93	32	65.0	0.89
Ogallala †	.....	.....	.....	0.34
O'Neill *‖	96	38	65.6	1.90
Palmer *‖	96	32	65.0	0.50
Plattsmouth †	.....	.....	.....	3.66
Ravenna	95	32	66.0	1.37
Red Cloud	.....	.....	.....	4.59
Santee Agency †	97	31	65.6	1.96
Seward *§	92	34	66.6	2.93
Springview	.....	.....	.....	0.20
Stanton *‖	92	33	64.4	0.42
State Farm	94	31	67.9	2.63
Superior *§	98	38	69.4	1.69
Sutton	95	32	65.9	3.23
Table Rock *† ‖	95	36	68.9	3.55
Tecumseh †	92	31	64.3	1.30
Tekamah	95	31	65.4	0.85
Turlington †	94	34	67.5	2.86
Wallace	.....	.....	.....	0.00
Weeping Water *‖	93	34	63.5	3.53
Whitman *‖	90	26	56.9	0.26
Wilcox	.....	.....	.....	1.78
York *‖	95	34	65.8	1.35
Nevada.				
Arthur	.....	.....	.....	0.74
Austin	78	27	56.4	0.33
Battle Mountain *‖	85	40	61.7	0.10
Belleville *§	90	36	63.7	0.00
Belmont	80	24	56.2	0.33
Beowawe *§	86	35	60.3	0.00
Carlin *§	88	18	54.2	0.10
Carson City	87	24	56.8	0.05
Clover Valley †	.....	.....	.....	1.49
Cortez †	.....	.....	.....	0.87
Cranes Ranch	.....	.....	.....	0.62
Downeyville	93	34	65.8	0.06
Elko *§	87	30	54.4	0.10
Elko (near)	95	30	60.2	0.11
Ely	81	24	53.9	1.65
Empire Ranch	85	20	51.8	0.14
Fenelon *§	80	30	53.9	0.50
Genoa	85	30	57.8	.....
Golconda *‖	92	44	63.9	0.04
Gold Hill	92	32	63.0	T.
Halleck *‖	85	26	53.0	0.27
Hawthorne *a* *§	85	40	64.0	0.00
Hawthorne *b*	90	31	62.6	0.00
Hot Springs *‖	89	43	67.8	0.10
Humboldt *§	92	37	60.4	0.15
Lewers Ranch	85	27	59.4	0.14
Lovelock *§	96	48	68.6	0.00
Marlette Lake †	.....	.....	.....	0.38
Mill City *‖	88	32	58.0	.....
Osceola	85	33	61.7	0.55
Palisade *‖	80	28	55.5	0.70
Palmetto	85	25	57.5	0.60
Paradise Valley	96	20	59.3	0.18
Reno *§	84	42	60.4	0.10
Reno State Univ'ty.	.....	28	.....	0.19
Ruby Valley †	.....	.....	.....	0.46
St. Clair	89	30	61.4	0.10
Stoffel	82	10	47.3	0.49
Sunnyside	96	20	64.9	0.79
Tecoma *§	88	34	58.7	0.10
Toano *‖	82	32	54.0	0.00
Tybo	88	26	59.3	0.36
Verdi *§	82	32	58.0	0.00
Virginia City	79	30	57.7	0.07
Wadsworth *§	96	35	59.3	0.25
Wells *§	92	42	64.5	0.00
Winnemucca *§	85	39	58.8	0.50
Yerington	84	29	59.1	0.10
New Hampshire.				
Alstead *6	81	32	61.7	2.56
Antrim	.....	.....	.....	4.12
Belmont	.....	.....	.....	2.83
Berlin Mills	80	25	56.0	2.66
Bethlehem	81	27	59.1	3.42

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
N. Hampshire—Con.	°	°	°	*Ins.*
Brookline *‖	88	36	63.7	3.00
Concord	87	32	60.7	2.26
Dublin	80	34	61.1	5.15
East Canterbury	85	40	61.5	2.93
Grafton	92	28	60.7	4.58
Hanover	85	32	60.3	3.56
Keene	87	29	61.4	3.55
Lakeport	.....	.....	.....	3.25
Lancaster	80	30	59.9	1.94
Littleton	81	27	58.3	2.86
Mine Falls	.....	.....	.....	3.16
Nashua	89	33	63.7	3.03
Newton	87	30	62.0	4.90
North Conway	89	25	59.5	5.00
Pennichuck Station	.....	.....	.....	2.90
Peterboro	88	27	60.4	5.11
Plymouth	88	27	58.6	4.32
Santornton †	85	31	59.7	3.45
Stratford	86	28	61.8	3.58
Weirs Bridge	.....	.....	.....	2.47
West Milan	82	23	56.3	2.87
Wolfboro	.....	.....	.....	3.13
New Jersey.				
Allaire	92	40	68.0	.....
Asbury Park	83	48	68.0	7.72
Barnegat	90	44	68.8	6.37
Bayonne	96	41	69.6	7.50
Beach Haven	86	50	70.3	4.94
Belvidere	93	35	67.4	5.47
Beverly †	96	41	70.0	5.86
Billingsport *‖	91	47	69.5	7.22
Blairstown	89	36	66.0	6.26
Bridgeton	92	46	71.6	5.23
Camden	89	42	68.9	6.63
Cape May	89	48	71.1	5.27
Cape May C. H †	87	46	69.8	7.86
Charlotteburg	88	31	60.4	11.40
Chester	87	37	64.5	9.82
Colesville	.....	.....	.....	6.61
Deckertown	90°	36°	65.0°	7.00
Dover	89	34	68.8	7.25
Egg Harbor City	92	42	69.2	7.92
Elizabeth †	93	43	68.4	7.36
Franklin Furnace	90	33	65.7	6.08
Franklinville	92	39	67.8	5.04
Freehold	90	39	67.8	6.19
Friesburg	.....	.....	.....	5.73
Gillette	91	35	65.7	7.25
Hammonton	.....	.....	.....	6.57
Hanover	89	40	66.8	9.77
Hightstown	93	40	67.4	7.66
Imlaystown	93	41	69.4	8.74
Junction	.....	.....	.....	8.84
Lambertville	90	38	68.3	6.97
Millville	97	43	71.6	6.39
Moorestown	92	40	68.9	7.57
Newark *a*	93	41	67.3	6.96
Newark *b* †	94	42	68.2	9.81
New Brunswick *a*	95	39	69.0	10.85
New Brunswick *b*	92	40	66.7	11.13
Newton	89	34	65.1	6.85
Ocean City	85	46	69.0	5.42
Oceanic	93	53	70.4	8.59
Papakating	.....	.....	.....	7.12
Paterson	93	41	68.2	10.41
Pensauken	.....	.....	.....	6.73
Plainfield	94	41	69.2	9.42
Rancocas *	91	53	.....	6.43
Readington *‖ †	94	50	73.8	.....
Ringoes	.....	.....	.....	5.61
River Vale	92	37	67.1	7.27
Salem	93	41	70.2	5.93
Somerville	97	40	69.8	7.15
South Orange	90	43	67.0	8.10
Tenafly	88	40	67.0	10.23
Toms River	96	40	69.8	5.47
Trenton	92	41	70.2	6.93
Vineland	96	42	70.8	8.39
West Summit	90	38	66.1	.....
Whiting	94	40	70.2	4.97
Woodbine	91	44	68.2	11.65
New Mexico.				
Albert †	89	42	67.7	2.49
Albuquerque †	87	38	64.6	0.32
Alma †	91	37	66.1	0.53
Bloomfield †	87	24	61.0	1.18
Chama †	85	26	56.1	2.30
Ciruelia	.....	.....	.....	2.50
Deming *§	92	64	77.7	T.
East Las Vegas †	82	34	58.3	1.22
Eddy †	93	48	73.3	1.38
Fort Bayard	91	42	66.2	0.10
Fort Stanton †	85	34	61.8	0.15
Fort Wingate	88	30	60.8	1.13
Galisteo †	81	39	62.6	.....
Gallinas Spring †	87	37	64.2	1.36
Gila	.....	.....	.....	0.23
Halls Peak †	83	23	53.2	2.13
Las Cruces †	94	40	69.2	0.18
Lordsburg *§	95	58	73.9	0.10
Los Lunas †	88	34	63.4	0.25
Monero †	78	20	53.8	0.92
Olio †	90	31	63.0	0.54
Pecos	.....	.....	.....	0.61
Roswell †	94	44	69.0	0.57

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
N. Mexico—Cont'd.	°	°	°	*Ins.*
San Marcial †	87	37	65.0	0.19
Socorro †	93	39	69.4	0.16
Springer †	84	56	67.8	0.20
Sulphur Hot Sp'gs †	78	24	51.0	2.28
Taos †	88	26	58.2	1.87
New York.				
Adams Center				5.96
Addison	92	31	64.0	5.62
Akron				6.96
Alfred Center	90[o]	28[o]	61.8[o]	6.88
Angelica †	88	26	61.3	7.14
Arcade	89	29	60.2	5.54
Arkwright	83	38	62.4	.....
Atlanta				6.21
Baldwinsville	86	37	64.9	4.88
Bedford	88	38	65.8	6.34
Big Sandy *[10]	86	42	66.2	.....
Binghamton †	88	30	63.7	4.98
Bovina Center				3.21
Brookfield	82	30	63.5	3.56
Canton †	89	29	61.0	3.36
Charlotte *[10]	87	35	62.2	.....
Cherry Creek				6.60
Cooperstown †	80	33	61.4	5.55
Cortland	86	33	62.4	4.44
De Kalb Junction				3.60
Demster				3.86
Ellis				5.63
Elmira †	90	33	66.4	5.16
Factoryville †	93	28	64.8	5.34
Fleming	85	35	65.4	5.77
Fort Niagara †	92	36	65.0	4.75
Friendship	90	23	61.6	6.89
Glens Falls	89	31	63.1	3.71
Gloversville	84	28	61.7	3.73
Hamilton	86	27	62.7	4.81
Hess Road St'n † [2]	90*	33	61.6	4.06
Honeymead Brook	90	35	64.3	3.87
Humphrey †	90	31	63.4	8.84
Hyndsville	85	28	62.6	2.77
Ithaca	89	31	64.8	5.17
Jamestown *[6]	85	35	64.3	.....
Kings Station				2.82
Lebanon Springs	85	29	62.7	6.23
Le Roy	87	31	62.6	2.72
Lockport	90	33	64.8	5.12
Lowville	84	35	61.7	3.84
Madison Barracks †	87	33	65.1	4.22
Malone	84	28	61.3	5.57
Middletown [4]	98	36	65.1	.....
Minnewaska	83	35	63.5	7.72
Mount Morris	92	27	63.1	4.28
Newark Valley				5.05
New Lisbon	83	26	61.0	5.74
North Hammond †	86	34	63.6	2.92
Number Four †	81	29	58.8	5.57
Ogdensburg	83	33	63.7	3.40
Oneonta	88	31	64.9	4.67
Oxford	85	28	63.0	6.11
Palermo †	86	35	63.6	3.44
Perry City	90	26	63.1	5.46
Pine City				4.57
Plattsburg B'ks	83	32	61.9	2.79
Port Jervis	88	32	65.1	6.02
Potsdam [1]	85*	30	62.9	3.34
Poughkeepsie	92	34	65.4	4.52
Rome	80	35	62.1	6.07
Romulus	88	33	66.0	4.92
Saranac Lake	84	29	60.0	3.58
Scottsville				3.36
Setauket †	86	50	67.0	5.26
Skaneateles				5.68
South Canisteo	90	27	62.6	7.12
South Kortright †	86	23	60.9	3.08
Stillwater	87	32	64.9	3.16
Trumansburg				4.17
Turin	79	30	60.4	4.51
Varysburg	96	28	64.7	3.68
Wappingers Falls	90	38	66.4	4.65
Warwick				10.11
Watertown	90	33	65.9	4.87
Wedgwood	95	29	64.2	5.91
West Chazy				2.79
West Point †	88	46	68.2	6.30
Willets Point	88	47	67.6	8.98
North Carolina.				
Asheville †	89	42	68.4	3.08
Auburn *[1]	100	56	73.6	0.53
Bailey *[1]	98	50	71.7	2.27
Bakersville †	87	39	67.0	4.07
Blowing Rock †	82	44	64.0	3.73
Bryson City †				2.90[e]
Chapel Hill †	96	51	72.8	7.93
Currituck Inlet †				5.07
Experiment'l Farm	91°	55°	72.4°	5.94
Fair Bluff †				7.13
Falkland *[1]	94	60	73.6	4.80
Fayetteville †				6.68
Flat Rock	85	41	66.8	3.36
Goldsboro †	93	58	74.9	6.06
Greenville				4.47
Greensboro †	95	52	73.2	5.04
Henderson †	96	52	73.2	5.55
Highlands	79	40	63.2	2.81
Horse Cove †	84	49	67.7	5.66

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
N. Carolina—Cont'd.	°	°	°	*Ins.*
Lenoir *† [1]	87	47	69.4	3.66
Lilesville				7.45
Littleton †	96	54	73.1	4.21
Louisburg †	94	54	72.8	4.46
Lumberton †	94	56	75.2	7.26
Lynn *† [2]	91	.....	69.0	4.07
Mocksville †	93	53	72.2	2.89
Moncure †	94	50	72.0	3.95
Morganton *† [1]	91	50	69.4	4.78
Mount Airy †	94	42	70.3	1.07
Mount Pleasant	94	51	72.8	5.12
Murphy †				1.38
Newbern †	94	60	75.9	5.10
Oak Ridge †	96	50	71.2	4.68
Pantego				3.15
Pittsboro	91	50	70.8	6.43
Rockingham †	96	53	74.8	6.55
Roxboro †	93	49*	71.4[d]	6.79
Salisbury *a*	90	55	73.4	2.97
Saxon †	97	42	71.6	2.06
Selma	93	57	73.4	7.53
Shelby †	91	51	70.8	3.26
Skyuka	84	48	67.0	4.27
Sloan †	95	56	75.0	6.08
Soapstone M't †	95	46	70.9	5.09
Southern Pines †	97	53	74.8	5.75
Tarboro	97	53	74.9	5.43
Waynesville †	86	41	66.7	1.88
Weldon †	94	53	73.6	4.72
Willeyton	93	54	73.0	3.02
North Dakota.				
Ashley	98	21	57.6	1.85
Berlin †	99	18	56.3	1.00
Bottineau †	90	18	53.7	2.89
Churchs Ferry	93	23	55.2	2.07
Dickinson †	88	21	52.4	0.90
Ellendale [f]	98	21	57.0	0.07
Fargo †	98	20	58.2	0.56
Forman †	.....	19	.....	0.19
Fort Berthold	88	22	59.0	0.96
Fort Yates †	94	24	60.9	.....
Gallatin †	104	23	56.9	1.67
Grafton †	100	23	56.4	1.35
Jamestown †	94	29	59.2	0.34
Kelso †	100	21	57.4	0.86
Lakota †	04	22	54.8	1.21
Larimore	84[b]	27[b]	57.4[b]	0.81[f]
McKinney	89	21	53.6	2.40
Milton †	96[d]	19[d]	57.5[g]	1.40
Minto †	96	26	60.0	1.24
Napoleon †	94	21	57.0	1.59
New Salem	95	22	54.8	1.63
Oakdale †	88	28	56.8	0.97
Portal †	100	25	52.6	2.03
Power †	100	25	58.8	0.36
St. John †	93	24	53.3	1.88
Steele †	94	20	56.3	0.62
University †	98	22	55.5	1.20
Wahpeton †	98	25	60.1	0.77
White Earth *[1]	85	20	52.2	1.91
Wild Rice † [2]	.....	.....	57.6	0.74
Woodbridge †	91	21	53.1	5.47
Ohio.				
Akron	91	38	67.4	5.28
Annapolis	98	36	68.2	2.16
Arcanum				2.27
Ashland	91	32	65.7	2.24
Athens [4]	96	36	69.1	1.27
Atwater				4.16
Auburn	94	30	64.9	4.60
Bangorville	92	36	66.6	1.79
Batavia				1.65
Bellefontaine	93	38	68.2	4.29
Bement	97	32	65.2	4.19
Benton Ridge	100	32	64.2	3.61
Bethany	95	33	69.2	2.31
Binola	95	37	69.1	3.71
Bissells	94	37	66.6	5.27
Bladensburg	97	33	66.9	3.36
Bloomingburg	93	38	68.0	3.60
Bloomington				4.31
Bowling Green	97	31	67.1	3.02
Bucyrus	94	34	66.9	3.90
Caledonia †				3.81
Cambridge	95	35	67.0	1.65
Camp Dennison	96	40	70.7	2.11
Canal Dover	98*	40*	64.1*	3.75
Canton †	92	38	67.9	4.35
Cardington	94	32	67.4	2.75
Carrollton	99	35	68.5	3.76
Cedarville *[1]				2.80
Celina	91	39	68.5	3.97
Cherry Fork	96	33	69.2	1.62
Circleville †				3.36
Clarksville	94	37	69.0	5.19
Cleveland	92	40	66.9	4.01
Clifton	95	32	68.1	2.37
Coalton	98	30	68.0	1.81
Colebrook				5.40
Cynthiana	97	38	69.1	2.40
Dayton *a*	94	38	70.3	1.54
Dayton *b* †	.....	.....	.....	1.53
Defiance	93	32	65.9	3.08
Demos	93	38	69.3	2.08
Dupont	93	31	66.0	2.26

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Ohio—Cont'd.	°	°	°	*Ins.*
Ellsworth	92	35	66.2	4.68
Elyria	94	36	67.0	3.18
Fairport Harbor *[10]	88	40	65.8	.....
Fayetteville	92	37	69.2	2.19
Findlay	94	33	66.9	2.92
Fostoria	95	37	67.2	2.06
Frankfort	91	40	70.6	3.65
Garrettsville	94	32	64.6	5.37
Georgetown	95	41	71.6	3.18
Granville	95	35	67.5	4.67
Gratiot	95	39	68.5	2.59
Greenfield	94	42	68.3	3.80
Green Hill	99	34	66.6	5.48
Greenville	87	37	66.5	3.49
Guysville	97	34	69.5	1.35
Hackney	96	38	69.2	2.39
Hanging Rock	97	38	70.2	3.41
Harbor	92	38	66.5	5.42
Hedges	100	29	66.8	4.06
Hillhouse	95	35	65.5	6.97
Hillsboro	101	35	69.8	1.91
Hiram	93	35	66.1	5.47
Jacksonboro	98	40	71.5	2.60
Kenton †	94	35	68.2	3.50
Kilbourne	92	35	66.5	1.92
Killbuck	97	38	67.2	3.48
Leipsic	.....	.....	.....	3.75[d]
Levering	96	27	64.7	1.53
Logan	97	36	69.5	3.03
Lordstown	92	30	64.1	4.52
Lowell	100	34	69.6	1.87
McArthur	96	44	69.3	1.43
McConnelsville	97	36	69.0	2.09
Mansfield †	.....	.....	.....	2.45
Marietta *a* †	.....	.....	.....	2.43
Marietta *b*	90	41	68.0	2.13
Marion	94	33	67.8	3.33
Milfordton	97	33	65.8	2.84
Milligan	98	32	67.7	2.20
Millport	95	.....	.....	4.95
Montpelier	95	32	64.5	5.13
Napoleon	93	32	68.9	3.20
Nelsonville	93[k]	48[k]	64.8[k]	1.48
New Alexandria	94	39	69.0	3.00
New Berlin	97	36	67.2	2.88
New Bremen	93	35	66.9	4.50
New Comerstown	96	36	67.3	2.88
New Holland	97	36	68.3	3.55
New Paris	95	36	70.2	3.15
New Waterford	94	30	65.5	4.27
North Fairfield	.....	.....	.....	3.34
North Lewisburg	92	37	68.2	2.20
North Royalton	97	42	68.2	5.31
Northwood	95	35	69.3	4.00
Norwalk	94	35	68.6	3.04
Oberlin				1.58
O. S. University	94	37	68.3	4.81
Orangeville	92	35	65.5	5.70
Pataskala	96	36	67.7	5.46
Peoli	95	37	69.9	2.00
Plattsburg	92	36	68.0	2.87
Pt. Marblehead *[10]	80	53	69.6	.....
Pomeroy	96	38	69.4	1.50
Portsmouth *a* †	.....	.....	.....	2.69
Portsmouth *b*	93	39	69.6	2.69
Richwood				1.65
Ridge	92	36	68.9	6.29
Ridg'v'le Corners	93	33	66.5	3.95
Ripley	94	42	70.2	1.59
Rittman	90	34	63.7	3.04
Rocky Ridge				4.70
Rosewood	95	35	66.6	2.74
Sharon Center				4.91
Shenandoah	96	36	66.7	2.87
Sidney *a* †	.....	.....	.....	3.40
Sidney *b*	95	34	67.2	3.23
Springboro	.....	.....	.....	2.78
Stoutsville	.....	.....	.....	3.19
Swanton	91	32	65.5	3.79
Sylvania	97	29	64.1	4.86
Thurman	100	39	71.0	1.47
Tiffin †	93	39	67.3	2.55
Upper Sandusky	93	37	70.2	3.34
Vanceburg	96	42	70.8	3.91
Van Wert	94	34	65.4	3.55
Vermillion	93	37	66.1	2.81
Vickery	92	37	66.2	3.26
Walnut	.....	.....	.....	4.17
Warren	97	33	66.8	7.14
Warsaw	103	31	67.4	2.72
Wauseon	98	32	66.7	3.74
Waverly	98	37	70.9	1.91
Waynesville	.....	.....	.....	3.24
Wellington	96	32	68.4	3.27
Westerville	87	37	66.4	3.35
Weymouth	94	36	66.3	5.35
Wheeler † [2]	.....	.....	68.6	4.39
Willoughby	.....	.....	.....	3.61
Wooster *a*	93	36	66.1	4.25
Youngstown	91	35	66.5	5.58
Zanesville †	.....	.....	.....	2.84
Oklahoma.				
Alva †	105	39	74.8	3.30
Anadarko †	109	45	76.6	2.20
Arapaho †	107	41	72.9	2.52

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Oklahoma—Cont'd.	°	°	°	*Ins.*
Britton †	.....	.....	.....	1.58
Burnett †	104	48	75.8	1.40
Clifton †	108	51	77.5	1.91
Fort Reno †	104	49	74.1	3.16
Fort Sill	102	45	74.9	3.45
Fort Supply †	104	36	70.6	2.29
Guthrie †	103	45	75.4	3.15
Mangum †	108	46	75.8	1.45
Ponca †	105	46	74.0	2.10
Pond Creek †	102	35	71.6	2.22
Stillwater †	103	40	72.4	6.89
Winnview †	107[f]	40[f]	74.2[f]	3.28
Oregon.				
Albany *a* †	94	40	60.7	1.67
Albany *b* *[6]	96	44	61.0	0.25
Arlington †	90	40	61.4	0.36
Ashland *a* *[6]	89	38	59.5	0.14
Ashland *b*	97	36	59.8	0.13
Aurora *[6]	95	45	61.0	2.62
Aurora (near)	88	38	58.1	2.56
Bandon	67	42	57.3	6.23
Bay City †	76	40	56.6	7.78
Brownsville *[6]	87	46	60.3	2.79
Burns †	85	10	47.2	.....
Canyon City †	98	36	61.8	0.77
Comstock *[6]	90	40	59.3	2.66
Condon	89	24	53.1	1.50
Cornelius	90	37	57.8	1.57
Corvallis *a*	90	39	58.7	1.20
Corvallis *b* *[6]	86	42	59.1	2.04
Corvallis (near)	88	44	60.5	1.61
Crook	85	25	51.2	1.04
Detroit †	91	38*	52.7	5.77
Gardiner	80	48	59.6	4.34
Glenora	91	34	55.8	7.33
Grants Pass *a* †	98	33	61.0	0.48
Grants Pass *b* *[6]	92	42	61.8	0.40
Heppner †	85	35	57.0	0.50
Hood River (near)	81	38	55.2	2.00
Hubbard	88	38	58.4	2.66
Jacksonville	90	37	59.4	0.27
Joseph †	80	30	51.2	0.91
Junction City *[6]	86	42	60.3	1.15
Lafayette *[6]	94	47	64.3	1.29
La Grande †	82	34	55.4	1.67
Langlois	76	44	60.8	4.58
Lone Rock	87	26	51.1	0.77
McMinnville *a* †	93	36	58.8	1.72
McMinnville *b* *[6]	92	46	60.3	2.11
Merlin *[6]	98	38	60.1	0.24
Monmouth *[6]	94	49	64.5	1.54
Mount Angel †	91	38	59.2	2.61
Mount Hood	70	26	45.4	7.26
Nehalem	.....	.....	.....	11.48
Newport	94	43	59.6	4.57
Pendleton	90	.....	.....	0.44
Portland *[6]	92	46	61.9	1.79
Riddles *[6]	94	42	58.2	1.40
Roseburg *[6]	92	45	62.2	0.93
Salem *a* *[6]	84	45	57.6	1.35
Salem *b* †	87	41	59.6	2.27
Sheridan *[6]	90	48	61.6	1.95
Silverton *[6]	88	46	59.5	3.70
Siskiyou *[6]	93	42	60.6	.....
Sparta	84	34	56.5	0.57
Springbrook	91	43	60.4	1.40
The Dalles †	84	39	60.6	1.02
Tillamook R'k L. H	.....	.....	.....	5.17
Toledo	84	40	59.5	4.47
Umatilla †	.....	.....	.....	0.11
Vale	85	29	56.9	0.27
West Fork *[6]	92	40	61.4	1.04
Weston	89	30	57.2	0.98
Williams [6]	90	30	58.2	0.33
Pennsylvania.				
Altoona	87	40	68.9	5.25
Aqueduct	92	37	69.5	5.68
Beaver Dam †	.....	.....	.....	3.74
Bethlehem	.....	.....	.....	8.54
Blooming Grove *[1]	89	30	63.5	4.80
Brookville †	.....	.....	.....	8.12
Browers Lock	.....	.....	.....	9.27
Carlisle *a*	90	36	68.5	9.45
Cassandra	84	40	66.8	5.25
Chambersburg †	90	46	68.1	2.82
Clarion †	.....	.....	.....	12.36
Coatesville	91	37	68.0	8.42
Confluence †	.....	.....	.....	3.48
Coopersburg	87	39	66.8	5.86
Davis Island Dam †	.....	.....	.....	3.13
Doylestown	.....	.....	.....	8.78
Drifton	85°	40°	65.6°	4.65
Du Bois †	.....	.....	.....	7.72
Dyberry †	88	26	62.3	4.40
East Mauch Chunk	91	32	65.8	5.63
Easton	88	37	66.0	6.57
Edinboro *[1]	90	33	64.6	.....
Elwood Junction †	.....	.....	.....	4.83
Emporium	88	31	64.8	5.26
F'ks of Neshami'y [1]	.....	.....	69.4[h]	6.94[h]
Frederick	.....	.....	.....	7.12
Freeport †	.....	.....	.....	3.91
Gettysburg †	.....	.....	.....	7.60
Girardville	.....	.....	.....	5.74
Grampian	88	36	64.9	7.08

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Pennsylvania—Con.	°	°	°	*Ins.*
Greensboro †	.....	.....	.....	3.73
Greenville	92[2]	36[6]	62.8[6]	6.03
Hamburg	90	42	68.2	6.25
Hollidaysburg	92	31	66.7	5.68
Honesdale	83	30	63.7	4.47
Huntingdon †	94	33	66.9	7.56
Johnstown †	94	37	68.7	5.44
Kane	89	33	63.2	6.97
Kennett Square	91	40	68.4	7.21
Kilmer	.....	.....	.....	5.47
Lancaster	90	46	69.0	7.32
Lansdale	.....	.....	.....	8.84
Lebanon	89	36	67.3	5.47
Le Roy †	90	32	64.1	5.44
Lewisburg	92	34	67.2	5.09
Lock Haven †	92	26	62.1	6.46
Lock No. 4 †	.....	.....	.....	4.19
Lycippus	92	41	68.1	7.68
Mahoning †	.....	.....	.....	7.91
Oil City †	.....	.....	.....	6.51
Ottsville	.....	.....	.....	8.27
Parker †	.....	.....	.....	9.82
Philadelphia [a]	.....	.....	.....	5.81
Philadelphia [b]	91	44	69.8	6.57
Phœnixville	91	37	68.3	8.31
Point Pleasant	.....	.....	.....	10.67
Pottstown	87	40	67.9	7.94
Quakertown	90	34	66.2	7.22
Reading [2]	.....	.....	65.6	7.48
Ridgway †	.....	.....	.....	5.73
Saegerstown	95	30	63.8	6.14
Salem Corners	87	31	64.6	5.67
Saltsburg †	.....	.....	.....	6.58
Seisholtzville	.....	.....	.....	5.60
Selins Grove	90	33	64.8	4.25
Shinglehouse	92	24	62.4	5.96
Smethport	92	28	62.8	6.32
Smiths Corners	.....	.....	.....	11.61
Somerset	90	34	65.8	3.12
South Eaton	87	33	64.6	3.69
State College	89	34	66.0	5.78
Stoystown †	.....	.....	.....	6.39
Swarthmore	89	45	69.4	5.50
Uniontown	98	40	68.8	5.77
Warren †	.....	.....	.....	6.14
Wellsboro *† [1]	88	28	60.6	5.85
West Chester	90	41	68.2	6.84
West Newton †	.....	.....	.....	3.20
Westtown [c]	89	40	66.4	5.83
Wilkesbarre †	89	32	66.0	5.05
York †	91	39	68.2	9.16
Rhode Island.				
Bristol	77	41	65.0	2.94
Kingston	85	39	64.5	3.96
Lonsdale	.....	.....	.....	2.96
Pawtucket	88	44	65.0	3.14
Providence [a]	84	44	67.0	3.09
Providence [c]	86	40	64.7	3.28
South Carolina.				
Allendale †	96	57	76.0	8.24
Anderson †	.....	.....	.....	3.25
Batesburg †	97	54	73.6	6.23
Blackville †	94	58	75.5	7.69
Blenheim *[3]	.....	58	71.1	6.63
Branchville	95	60	79.6	8.22
Camden †	.....	.....	.....	7.52
Central [2]	.....	.....	70.4	2.34
Cheraw [a] †	94	54	75.1	7.11
Cheraw [b] †	.....	.....	.....	7.99
Conway †	.....	.....	.....	7.28
Cross Hill *[1]	93	60	76.5	5.58
Edisto †	.....	.....	.....	7.01
Effingham †	.....	.....	.....	8.19
Flint Hill †	93	54	73.4	7.30
Florence †	94	58	76.6	7.24
Georgetown †	94	61	76.6	10.35
Greenville †	90	52	73.4	3.75
Greenwood †	96	58	76.7	3.31
Hardeeville †	93	59	76.4	9.95
Hollands Store †	93	53	74.4	4.16
Kingstree [a] †	98	60	79.0	7.31
Kingstree [b] †	.....	.....	.....	7.89
Little Mountain	98	54	74.6	3.73
Longshore †	93	53	72.2	8.01
McCormick *† [1]	91	58	72.7	4.37
Mount Carmel †	.....	.....	.....	3.57
Pinopolis *[1]	88	62	74.8	10.74
Port Royal †	94	55	78.2	9.45
St. Georges †	94	58	76.2	10.42
St. Matthews †	94	58	76.2	6.80
St. Stephens †	.....	.....	.....	7.54
Santuck *[1]	91	58	73.5	3.71
Shaws Fork *[1]	100	60	76.2	5.55
Simpsonville †	96	53	75.6	6.91
Society Hill †	90	56	73.1	9.56
Spartanburg †	98	54	75.6	3.38
Statesburg †	91	58	74.8	6.70
Timmonsville *[1]	94	62	78.0	.....
Trenton	91	58	75.9	5.80
Trial †	96	57	76.3	6.66
Watts *[5]	92	57	74.2	4.70
Yorkville	93	57	73.9	4.49
South Dakota.				
Aberdeen †	98	21	54.0	0.40
Alexandria †	96	26	62.5	1.64
S. Dakota—Cont'd.	°	°	°	*Ins.*
Armour †	94	30	61.0	0.78
Ashcroft †	98	25	55.8	0.73
Bowdle *† [1]	90	32	62.3	1.68
Brookings †	94	18	57.8	1.68
Castlewood †	.....	.....	.....	4.30
Clark †	98	28	62.9	3.70
Cross †	87[e]	24[e]	55.3[e]	0.50
De Smet †	95	29	64.0	2.89
Farmingdale	.....	.....	.....	0.44
Faulkton †	99	23	61.3	0.87
Flandreau †	99	30	63.2	1.57
Forestburg †	100	21	61.6	1.55
Forest City †	99	.....	.....	1.00
Fort Meade	92	30	60.2	0.62
Fort Sully †	104	22	65.0	0.75
Frankfort †	98	22	60.9	0.64
Gary †	95	34	63.4	2.35
Greenwood	97	30	67.4	0.94
Highmore †	100	25	62.2	0.10
Hitchcock	.....	.....	.....	0.77
Hotch City †	100[d]	23[j]	61.8[d]	0.35
Howard †	95	26	62.8	1.74
Kimball †	98	28[e]	64.3[e]	0.60
Northville *[1]	100	22	59.9	1.12
Oelrichs †	108	30	60.1	0.80
Parker †	95	29	63.4	0.40
Parkston †	96	30	62.2	1.11
Piedmont	.....	.....	.....	0.62
Plankinton †	97	29	64.6	1.45
Rochford	.....	.....	.....	0.57
Rosebud †	91	27	61.6	0.44
Silver City	.....	.....	.....	0.61
Sioux Falls †	94	28	63.8	0.62
Spearfish †	91	35	58.7	0.92
Tyndall †	95	32	65.9	1.96
Webster †	99	21	62.1	1.81
Wessington †	.....	.....	.....	1.22
Wessington Sp'gs †	97	30	64.9	1.39
Yankton †	94	34	66.0	2.08
Tennessee.				
Andersonville *[1]	92	43	67.4	2.21
Arlington †	96	44	73.0	1.65
Ashwood *† [1]	88	48	71.6	3.79
Bolivar †	90	42	72.9	1.23
Bristol †	88	42	68.1	3.35
Brownsville †	94	42	74.2	2.30
Byrdstown †	89	42	69.6	2.72
Carthage †	.....	.....	.....	2.54
Clarksville	91	45	73.6	1.96
Clinton †	.....	.....	.....	0.33
Covington [a] †	87	47	71.7	2.24
Covington [b] †	96	43	75.1	2.27
Dyersburg †	94	42	71.8	1.50
Florence Station †	90	47	71.7	3.10
Franklin †	91	42	71.4	1.47
Greeneville †	89	47	70.4	1.88
Hohenwald	.....	.....	.....	1.64
Jacksboro *[4]	90	46	67.4	0.99
Jackson *[1]	90	42	71.7	0.90
Loudon †	.....	.....	.....	2.35
Lynnville *[1]	89	50	71.4	3.15
Milan †	88	40	70.9	1.58
Newport [2]	92	45[e]	69.8	1.47
Nunnelly *[1]	91	45	72.0	2.25
Palmetto †	.....	.....	.....	4.60
Parksville *[1]	90	50	72.2	0.57
Riddleton †	95	49	76.2	2.01
Rockwood †	.....	.....	.....	0.70
Rogersville *[1]	86	48	70.0	2.51
Rugby *[1]	88	51	69.1	2.19
Springdale *[1]	95	42	73.5	0.90
Trenton	.....	.....	.....	2.00
Tullahoma *† [1]	87	50	69.4	1.30
Waynesboro *[1]	89	46	69.0	1.57
Texas.				
Alice †	98	62	80.8	3.70
Arlington †	98	54	77.4	1.97
Arthur City †	.....	.....	.....	2.40
Aurora *[1]	102	58	78.0	2.10
Austin [b] *[5]	93	63	79.0	.....
Beaumont *[1]	81	71	78.7	5.33
Bellville *[4]	97	74	84.2	0.50
Belton †	94	56	77.1	2.36
Boerne *† [3]	89	60	73.2	1.97
Brady †	96	57	76.1	4.80
Brazoria †	91	61	78.3	8.46
Brenham †	94	59	78.7	1.81
Burnet *† [1]	88	60	76.4	1.57
Camp Eagle Pass	99	61	80.4	6.14
Childress †	102	48	75.7	0.55
Coleman	.....	.....	.....	0.69
College Station	91	59	76.8	1.52
Columbia †	93	60	78.2	2.32
Corsicana [b] †	96	54	75.0	2.28
Cuero †	98	62	79.8	4.40
Dallas †	98	50	74.8	4.07
Devine [d]	92	58	77.2	3.35
Durham †	.....	.....	.....	1.15
Duval *[1]	96	66	81.6	0.15
Estelle †	97	56	77.2	2.11
Flower Bluff †	91	65	81.2	4.03
Forestburg †	96	54	75.7	3.04
Fort Brown †	97	66	81.4	2.66
Fort Clark	92	62	76.4	9.22
Fort Hancock	100	39	72.0	1.95

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Texas—Cont'd.	°	°	°	*Ins.*
Fort McIntosh	100	64	83.0	2.61
Fort Ringgold †	100	66	82.4	1.00
Fort Stockton †	.....	.....	.....	4.15
Fredericksburg † [1]	91[e]	58	75.9	4.20
Golindo	.....	.....	.....	1.20
Graham †	105	53	78.6	1.13
Grape Vine †	99	53	75.6	2.68
Hale Center †	92	49	70.9	1.75
Hallettsville †	93	58	77.8	3.49
Happy	94	39	68.0	2.26
Hartley †	93	31	61.1	3.65
Haskell †	98	62	79.8	0.22
Hearne †	94	56	74.4	3.10
Hewitt	.....	.....	.....	1.85
Houston †	94	56	76.4	3.25
Huntsville †	92	58	77.0	6.35
Jefferson *[1]	96	54	76.5	0.33
Kent	.....	.....	.....	2.07
Lampasas *[1]	97	58	77.9	1.62
Leakey †	89	60	77.2	4.60
Llano *† [3]	96	60	76.9	2.00
Longview †	97	52	77.8	2.06
Luling †	96	60	78.8	0.79
Marshall †	93	52	73.8	5.25
Menardville *† [1]	96	58	73.7	4.20
Midland †	109	47	75.9	1.40
Mountain Spring †	100	53	77.1	3.83
New Braunfels †	93	59	77.1	0.81
Orange †	92	57	77.7	3.97
Paris †	98	54	76.8	2.52
Roby †	104	41	75.0	1.41
Rockport *[1]	94	68	81.1	.....
Rock Springs †	93	55	74.0	3.13
Round Rock †	96	62	81.0	1.33
San Antonio	94	61	78.6	1.21
San Marcos [a] †	.....	.....	.....	1.29
San Marcos [b] †	98[e]	59[e]	79.9[e]	1.33
Sherman †	96	54	76.8	4.16
Silver Falls †	99	46	72.0	0.06
Sugar Land †	93	60	78.0	4.71
Temple †	95	58	77.6	0.82
Tyler †	96	54	76.4	3.72
Victoria *† [1]	89[e]	68[f]	78.1[j]	6.39
Waco †	97	57	78.1	1.80
Weatherford †	97	55	76.6	1.97
Wichita Falls †	105	57	81.2	1.23
Utah.				
Alpine City †	.....	.....	.....	1.90
Blue Creek *[3]	89	36	60.2	1.10
Cisco †	91	34	64.0	0.83
Coalville †	87	22	51.9	0.91
Corinne *[3]	79	40	64.5	1.58
Deseret †	87[1]	27[1]	57.4[1]	1.67
Emery	.....	.....	.....	2.13
Fillmore †	94	28	62.2	1.94
Fort Du Chesne †	88	30	68.0	1.88
Glendale *† [1]	102	33	57.2	.....
Grouse Creek *† [1]	80	30	49.1	0.93
Heber †	80	20	53.4	2.47
Kelton *[3]	87	42	58.5	2.25
Koosharem	79	19	52.5	0.88
Lake Station *[1]	85	32	57.1	.....
Levan † [2]	.....	.....	58.7	2.87
Loa †	83	13	52.2	0.37
Logan †	82	32	58.6	2.60
Losee †	87	23	57.6	0.80
Manti †	92	43	66.0	1.91
Millville †	.....	.....	.....	1.87
Moab †	89	34	63.1	0.69
Mount Pleasant *† [1]	85	35	61.0	2.16
Ogden [a] *[3]	80	40	61.1	1.77
Ogden [b] *† [1]	81	43	61.3	1.59
Parowan †	83	28	58.8	0.72
Promontory *[5]	82	32	56.8	1.50
Provo City † [2] [3]	.....	.....	52.7	0.39
Randolph †	78	17	50.5	1.94
Richfield †	85	26	58.0	1.15
St. George †	99	33	69.0	0.04
Scipio †	.....	.....	.....	2.08
Scofield †	78	14	49.1	0.97
Singletree *† [1]	80	19	50.6	0.86
Snowville †	80	23	54.8	0.75
Soldier Summit †	78	15	47.0	0.89
Terrace *[3]	84	50	71.5	1.50
Thistle †	92	33	56.4	1.80
Vermont.				
Brattleboro	88	35	64.0	4.21
Burlington †	80	31	64.2	2.88
Cornwall	83	30	63.0	1.90
Enosburg Falls †	80	26	58.7	3.70
Hartland †	85	28	58.2	4.58
Irasburg †	79[1]	35[1]	59.4[1]	2.10
Jacksonville	86	22	55.9	5.48
Norwich *[6]	85	30	56.5	4.14
St. Johnsbury	79	30	59.1	2.34
Simonsville	83	23	57.8	4.11
Strafford *† [1]	78	38	59.1	3.70
Vernon *[6]	87	35	62.5	6.13
Wells	83	32	63.1	3.31
Woodstock	87	28	59.8	4.07
Virginia.				
Abingdon †	.....	.....	.....	1.28
Alexandria	95	49	72.8	1.13
Ashland †	96	49	71.3	5.72
Avon †	97	43	70.6	6.70

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Virginia—Cont'd.	°	°	°	*Ins.*
Big Stone Gap †	88	37	66.5	1.70
Birdsnest *† [1]	91	57	74.0	7.00
Blacksburg	90	39	66.4	1.84
Buchanan †	.....	.....	.....	4.42
Buckingham †	93	45	69.6	7.60
Cape Charles † [1]	90[e]	47	72.4	6.22
Christiansburg †	.....	.....	.....	1.82
Dale Enterprise †	89	38	66.7	5.96
Fredericksburg †	97	48	71.4	2.30
Grahams Forge	90[f]	42[f]	67.5[f]	1.56
Hampton	92	61	74.6	5.31
Hot Springs	89	36	63.8	4.83
Houston †	98[e]	47[e]	71.7[e]	5.35
Irwin †	93	47	70.1	5.44
Lexington †	94	43	69.6	2.41
Marion †	86[g]	40[g]	66.0[g]	1.19
Nottoway	98	48	73.1	7.30
Petersburg †	97	51	72.8	8.15
Richmond † (near)	101	49	73.1	7.22
Richmond [b] †	.....	.....	.....	7.27
Rocky Mount †	94	47	72.2	2.91
Salem †	94	48	72.6	2.66
Smithville †	.....	.....	.....	3.18
Spottsville †	94	51	71.6	6.86
Stanardsville †	94	48	70.8	3.48
Staunton †	93	41	68.6	7.16
Stephens City †	93	42	70.1	3.91
Warsaw †	94	53	70.6	2.97
Whittles Depot †	99	45	72.2	3.55
Wytheville †	86	42	65.8	0.90
Washington.				
Aberdeen †	88	39	58.1	6.80
Anacortes	.....	.....	.....	2.32
Blaine †	75	33	54.1	4.44
Bridgeport †	93	32	59.6	0.15
Chehalis †	93	35	57.2	3.62
Colfax †	82	30	54.9	1.24
Davenport †	82	32	54.4	0.16
Dayton †	88	31	58.9	1.60
East Sound †	75	43	56.0	3.76
Elbe	.....	.....	.....	7.27
Ellensburg †	83	31	55.6	0.13
Everett	83	35	57.0	3.65
Ferry †	.....	.....	.....	4.97
Fort Simcoe	89	41	60.4	T.
Fort Spokane	92	32	57.8	0.12
Fort Townsend	79	39	55.8	1.81
Hunters †	79	26	48.8	1.59
Kennewick †	93	42	63.8	0.15
Lakeside †	89	36	60.6	0.05
Lapush †	84	40	55.8	8.03
Madrone *† [1]	84	40	56.4	3.20
Moxee Valley †	88	27	58.4	0.07
Olga †	69	46	56.9	2.79
Pine Hill *[1]	89	43	59.0	1.88
Pomeroy †	79	46	59.5	0.61
Pullman †	85	30	54.4	1.37
Rosalia †	84	31	53.8	1.90
Silver Creek *[1]	85	36	54.8	5.58
Snohomish †	81	36	56.4	4.24
Sulphur †	98	33	61.8	0.11
Tacoma †	87	41	57.6	2.32
Union City *† [1]	85	36	54.6	5.32
Vashon †	78	31	52.5	2.80
Waterville †	86	30	54.4	0.04
Wenatchee Lake †	91	26	53.5	1.30
West Ferndale †	.....	.....	.....	4.45
West Virginia.				
Beverly †	92	32	68.8	2.08
Bloomery †	89	33	65.4	4.70
Buckhannon [a] †	.....	.....	.....	1.30
Buckhannon [b] †	90	34	66.3	.....
Burlington †	92	32	67.3	4.15
Central Station *† [1]	94	33	67.9	2.42
Charleston †	.....	.....	.....	3.77
Cloverdale †	.....	.....	.....	2.54
Creston †	98[4]	36[4]	69.8[4]	2.25
Davis †	86[4]	31[e]	59.6[f]	3.41
Elkhorn †	90	40	68.2	1.41
Ella †	92	44	70.5	1.41
Fairmont †	.....	.....	.....	2.19
Glenville †	92	36	67.9	2.12
Grafton †	91	37	68.8	1.73
Harpers Ferry †	.....	.....	.....	2.70
Hinton †	.....	.....	.....	2.59
Huntington †	94	38	69.0	1.74
Leachtown †	.....	.....	.....	1.69
Madison †	90	39	68.4	4.75
Martinsburg †	94	42	69.1	2.42
Morgantown [a] †	.....	.....	.....	2.39
Morgantown [b] †	98	36	70.4	2.52
New Cumberland †	98	37	69.2	3.60
New Martinsv'le †	95	36	69.4	1.25
Nuttallburg †	97	40	72.9	4.10
Philippi †	.....	.....	.....	1.45
Pleasant Hill *[3]	90	40	59.2	1.90
Point Pleasant †	96	42	71.6	1.87
Powellton	90	38	67.4	3.30
Raleigh †	88	33	63.0	1.92
Rowlesburg †	.....	.....	.....	2.84
Sandyville †	96	34	68.7	1.33
Spencer †	98	40	70.0	2.80
Tannery *[1]	92	38	67.3	.....
Weston [a] †	.....	.....	.....	3.05
Weston [b] *[1]	90	42	69.6	.....

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
W. Virginia—Con'd.	°	°	°	*Ins.*
Wheeling *a* †	.....	.....	.....	2.07
Wheeling *b* †	93	42	70.6	2.21
Wisconsin.				
Amherst	95	27	61.4	2.71
Antigo †	94	28	61.4	2.15
Baraboo †	.....	.....	.....	4.86
Barron †	91	22	59.0	1.85
Bayfield	94	32	60.8	2.27
Beaver Dam	94	31	63.4	4.64
Belleville	95	27	61.8	6.73
Beloit	93	34	64.7	9.03
Black River Falls †	96	23	61.3	3.01
Centralia	94	25	62.8	1.80
Chilton	95	30	63.0	2.65
Chippewa Falls †	.....	.....	.....	3.31
Columbus	92	28	60.1	5.15
Crandon †	93	30	60.4	3.59
Delavan †	96	30	63.8	6.44
Depere †	93	31	62.8	2.41
Florence †	89	24	56.7	3.74
Fond du Lac †	94	30	63.6	3.41
Grantsburg †	96	29	62.0	1.80
Hartford *† [5]	85	30	60.2	5.14
Harvey †	93	30	61.6	5.34
Hayward †	91	25	58.8	1.66
Hillsboro	95	24	61.1	4.11
Janesville	95	32	64.6	7.29
Kenosha *[10]	88	40	63.7	.....
Koepenick *† [1]	86	38	61.8	2.50
Lancaster †	93	33	63.2	3.87
Lincoln † [2]	.....	.....	62.4	1.52
Madison †	90	37	64.4	4.21
Manitowoc †	89	34	61.3	3.40
Meadow Valley †	93	15	58.4	1.88
Medford *b* †	94	27	59.6	2.86
Menomonie	97	24	60.2	2.93
Neillsville †	92	25	60.0	2.63
New Holstein †	94	31	61.4	2.98
Oconomowoc †	93	33	65.0	7.51
Oconto	92	30	61.4	2.13
Osceola †	98	25	61.0	1.85
Oshkosh †	93	35°	66.0°	2.65
Wisconsin—Cont'd.	°	°	°	*Ins.*
Pepin	91	33	60.4	1.66
Portage †	.....	.....	.....	3.56
Port Washington	87	35	62.6	2.31
Prairie du Chien	99	24	63.4	3.65
Racine *[10]	81	42	63.7	.....
Reedsburg †	94	30	63.6	4.25
Royalton	94	27	61.8	2.91
Sharon †	93	33	63.0	7.12
Shawano	94	27	59.6	3.64
Sheboygan *[10]	88	36	63.3	.....
Spooner †	91	28	61.0	1.92
Stevens Point †	92	28	63.0	1.87
Sturgeon B. Canal *[10]	80	34	59.2	.....
Two Rivers *[10]	81	36	61.4	.....
Valley Junction †	96	23	61.6	2.71
Viroqua	95	30	60.6	4.87
Watertown †	91	29	63.0	5.35
Waukesha †	92	39	64.8	4.55
Westfield †	94	28	63.0	2.09
Weston *† [3]	96	28	58.2	4.14
Whitehall	95	31	63.7	3.25
Wyoming.				
Big Horn Ranch †	79	22	47.1	2.78
Camp Pilot Butte †	80	28	53.4	0.98
Fort McKinney	84	28	54.2	0.74
Fort Washakie	81	26	53.4	2.22
Fort Yellowstone †	74	.....	.....	0.71
La Barge †	75	16	47.9	0.81
Laramie	78	29	52.0	1.60
Lusk †	88	30	56.2	0.57
Saratoga †	78	22	50.6	2.03
Sheridan	88	25	54.3	0.95
Sundance	86	28	54.2	0.91
Mexico.				
Ciudad P. Diaz	96	66	81.7	4.70
Leon de Aldamas	82	54	69.2	6.68
Mexico	77	51	62.4	3.37
Puebla	83	50	64.8	5.27
Topolobampo *[3]	90	76	82.6	5.97
West Indies.				
Grand Turk Island	.....	.....	.....	7.35

Reports received too late to be used in general discussion of weather for September, 1894.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Alaska.				
Killisnoo †	60	31	46.4	5.05
Arkansas.				
New Gascony *[1]	88[d]	52[a]	74.2[d]	2.75
California.				
Pilot Creek	.....	.....	.....	1.82
Saticoy	.....	.....	.....	1.02
Illinois.				
Clear Creek	98	32	64.8	7.06
Oregon [4]	98	33	69.2	3.19
Kansas.				
Manhattan *b*	104	35	72.2	3.34
Massachusetts.				
Hadley	91	29	63.6	5.16
Monroe	82	28	58.5	6.17
Waltham	.....	.....	.....	2.29
Michigan.				
Harrison	92	24	56.1	4.12
Michigan.—Cont'd.				
Hayes *	95	35	62.2	3.11
Lake City *[6]	.....	39	56.6	3.21
St. Johns	94	36	65.0	1.70
Missouri.				
Rea [b]	96	35	67.4	3.77
Nebraska.				
Kimball	96	28	60.7	0.18
New Mexico.				
Estalina Springs	86	28	59.1[2]	0.11
Oklahoma.				
Keokuk Falls	104	45	74.1	3.47
South Dakota.				
Mellette	.....	.....	.....	1.11
Texas.				
Albany *[1]	91	55	74.4	1.94
Austin *a*	96	60	77.8	0.70
Ochiltree	.....	.....	.....	3.07

Received too late for publication in August, 1894.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
Alabama.				
Uniontown	94	66	79.4	11.91
Arizona.				
Holbrook	95	55	74.2	0.88
California.				
Mutah Flat	.....	.....	.....	0.00
Neenach *[1]	110	64	80.4	.....
Point George L. H.	.....	.....	.....	0.00
Florida.				
Federal Point	95	69	81.0	6.99
Georgia.				
Piscola	.....	.....	.....	6.70
Illinois.				
Bloomington †	104	38	71.4	0.91
Iowa.				
Rock Rapids	100	40	72.7	1.28
Kentucky.				
Herbert	101	50	78.1	2.09
Maine.				
Orono	87	36	61.1	2.01
Massachusetts.				
Waltham	.....	.....	.....	1.48
Minnesota.				
Two Harbors	87	45	63.4	2.16
Mississippi.				
Edwards	96	64	80.4	5.49
Nebraska.				
Tecumseh	.....	.....	.....	T.
New Jersey.				
Salem	.....	.....	72.8	3.50
New York.				
Potsdam	.....	.....	.....	0.70
West Chazy	.....	.....	.....	1.12
North Dakota.				
Fort Berthold	99	49	74.0	0.44

Reports received too late, &c.—Continued.

Stations.	Temperature. (Fahrenheit.) Max.	Min.	Mean	Precip'n.
South Dakota.	°	°	°	*Ins.*
Mellette	.....	.....	.....	2.78
Tennessee.				
Byrdstown	97	52	75.0	3.20
Texas.				
Albany *[1]	97	55	80.8	4.62
Utah.				
Desert [f]	92	45	71.8	0.23

EXPLANATION OF SIGNS.

*Extremes of temperature from observed readings of dry thermometer.

† Weather Bureau instruments.

A numeral following the name of a station indicates the hours of observation from which the mean temperature was obtained, thus:

[1] Mean of 7 a. m. + 2 p. m. + 9 p. m. + 9 p. m. ÷ 4.
[2] Mean of 8 a. m. + 8 p. m. ÷ 2.
[3] Mean of 7 a. m. + 7 p. m. ÷ 2.
[4] Mean of 6 a. m. + 6 p. m. ÷ 2.
[5] Mean of 7 a. m. + 2 p. m. + 2.
[6] Mean from readings at various hours reduced to true daily mean by special tables.
[7] Mean from hourly readings of thermograph.
[8] Mean of 7 a. m. + 2 p. m. + 9 p. m. ÷ 3.
[9] Mean of sunrise and noon.
[10] Mean of sunrise, noon, sunset, and midnight.

The absence of a numeral indicates that the mean temperature has been obtained from daily readings of the maximum and minimum thermometers.

An Italic letter following the name of a station, as "Livingston *a*," "Livingston *b*," indicates that two or more observers, as the case may be, are reporting from the same station. A small Roman letter following the name of a station, or in figure columns, indicates the number of days missing from the record; for instance, "[a]" denotes 14 days missing.

No note is made of breaks in the continuity of temperature records when the same do not exceed two days. All known breaks, of whatever duration, in the precipitation record receive appropriate notice.

TABLE III—*Data from Canadian stations for the month of September*, 1894.

Station.	Pressure. Mean not reduced.	Mean reduced.	Departure from normal.	Temperature. Mean.	Departure from normal.	Precipitation. Total.	Departure from normal.	Prevailing direction of wind.
	Inches.	*Inches.*	*Inches.*	°	°	*Inches.*	*Inches.*	
St. Johns, N. F.	29.86	30.00	+ .01	51.6	— 3.8	3.00	.....	w.
Sydney, N. S	30.04	30.10	+ .07	55.3	— 0.7	1.12	— 2.12	sw.
Grindstone, G. St. L.	30.00	30.03	.....	52.8	.....	3.02	.....	sw.
Sable Island	30.10	.....	.....	58.6	.....	1.76	.....	w.
Halifax, N. S	30.00	30.13	+ .08	57.0	+ 0.5	1.01	— 2.54	w.
Grand Manan, N. B.	30.06	30.11	.....	56.4	.....	2.85	+ 1.05	w.
Yarmouth, N. S	30.05	30.13	+ .06	56.1	+ 0.6	4.65	+ 2.06	s.
Saint Andrews, N. B	30.04	30.09	.....	55.6	.....	2.21	— 0.41	nw.
Charlottetown, P. E. I.	30.04	30.08	.....	56.3	.....	2.79	— 0.07	s.
Chatham, N. B	30.06	30.08	+ .07	54.0	+ 1.0	2.64	— 0.08	w.
Father Point, Que	30.02	30.05	+ .07	48.6	— 1.4	3.28	+ 0.48	w.
Quebec, Que	29.72	30.05	+ .03	54.8	— 0.2	2.80	— 0.87	w.
Montreal, Que	29.85	30.05	+ .02	59.2	+ 1.7	2.73	— 0.50	sw.
Rockliffe, Ont	29.55	30.06	+ .03	53.4	+ 0.9	3.23	— 0.47	nw.
Kingston, Ont	29.74	30.05	+ .01	61.8	+ 2.3	3.10	+ 0.33	sw.
Toronto, Ont	29.68	30.06	.00	60.6	+ 2.6	5.49	+ 2.74	n.
White River, Ont	28.62	29.96	.....	49.6	+ 0.7	4.85	+ 1.77	w.
Port Stanley, Ont	29.43	30.06	+ .01	61.1	.....	4.04	+ 1.39	e.
Saugeen, Ont	29.34	30.04	.00	59.4	+ 2.9	3.75	+ 0.24	e.
Parry Sound, Ont.	29.34	30.03	.00	50.9	+ 1.4	4.54	+ 0.21	se.
Port Arthur, Ont	29.18	29.87	— .09	52.8	+ 2.3	1.77	— 1.70	w.
Winnipeg, Man.	29.02	29.84	— .08	50.9	+ 1.9	2.18	+ 0.18	n.
Minnedosa, Man.	28.03	29.82	— .10	49.2	+ 2.7	0.89	— 0.53	nw.
Qu'Appelle, Assiniboia	27.60	29.85	— .07	48.1	— 0.4	1.25	+ 0.11	s.
Medicine Hat, Assiniboia	27.54	29.82	— .06	52.8	— 1.7	2.18	+ 1.33	sw.
Swift Current, Assiniboia	27.29	29.85	— .09	50.6	— 0.4	0.63	— 0.50	w.
Prince Albert, Sask.	28.30	29.82	.....	44.6	.....	0.69	.....	nw.
Edmonton, Alberta	27.51	29.85	— .05	45.2	— 3.4	1.82	+ 0.33	nw.
Battleford, Saskatchew'n	28.06	29.78	.....	47.8	.....	1.44	.....	nw.
Spences Bridge, B. C.	29.08	29.89	.....	57.9	.....	0.80	.....	sw.
Hamilton, Bermuda	29.96	30.12	+ .05	78.1	.....	9.23	.....	ne.
Esquimault, B. C.	29.94	29.97	.....	52.9	.....	2.85	.....	s.
August, 1894.								
Sable Island	29.96	.....	.....	62.8	.....	1.09	.....	sw.
Hamilton, Bermuda	29.96	30.12	+ .02	79.7	.....	4.55	.....	sw.

TABLE IV *a.*—*Hourly sunshine as deduced from sunshine recorders, September*, 1894.

Station.	Instrument.	Percentage for each hour of local mean time ending with the respective hour.																Monthly summary.			
		A. M.								P. M.								Instrumental record.			Personal estimate.
		5	6	7	8	9	10	11	Noon.	1	2	3	4	5	6	7	8	Actual.	Possible.	Per cent of possible.	
																		Hours.	*Hours.*		
Baltimore, Md	T.	.....	56	50	55	63	65	65	63	57	60	60	58	53	44	34	.....	214.9	375.5	57	46
Bismarck, N. Dak	P.	.....	60	58	65	69	62	64	66	67	72	71	65	54	49	51	.....	239.4	377.7	63	63
Boston, Mass	T.	.....	12	27	41	56	58	69	76	78	74	71	64	59	39	24	.....	215.9	374.5	58	42
Buffalo, N. Y	T.	.....	13	30	36	61	73	77	76	79	80	78	67	56	30	10	.....	224.6	374.3	60	41
Chicago, Ill	T.	.....	34	40	45	62	72	77	83	92	89	87	78	68	65	38	.....	262.0	374.1	70	60
Cincinnati, Ohio	P.	.....	44	61	74	75	77	76	78	80	76	75	78	78	69	58	.....	275.7	372.9	74	58
Cleveland, Ohio	P.	.....	42	48	54	61	64	68	78	80	75	65	74	70	60	78	.....	247.3	374.3	66	57
Colorado Springs, Colo.	T.	.....	54	80	85	89	92	94	91	86	85	80	73	57	43	31	.....	292.6	373.7	78	69
Columbus, Ohio	T.	.....	43	49	59	72	79	80	84	78	80	78	78	62	51	35	.....	260.1	372.9	70	60
Denver, Colo	P.	.....	58	62	80	90	90	95	89	80	83	80	69	62	42	39	.....	284.0	373.9	76	63
Des Moines, Iowa	T.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	64
Detroit, Mich	T.	.....	30	42	59	77	85	92	90	94	96	84	77	72	56	52	.....	282.3	375.0	75	62
Dodge City, Kans	P.	.....	51	63	63	74	80	79	80	83	85	83	81	78	70	61	.....	282.3	372.6	76	68
Eastport, Me	P.	.....	22	25	29	31	34	45	55	61	67	55	52	51	32	24	.....	164.8	376.5	44	35
Galveston, Tex	P.	.....	22	44	68	73	78	74	75	65	69	69	65	62	41	13	.....	236.4	370.7	64	64
Helena, Mont	P.	.....	36	41	55	67	77	76	69	69	70	65	63	60	47	62	.....	235.2	377.6	62	51
Kansas City, Mo	P.	.....	47	55	56	65	71	76	85	83	79	80	80	72	54	53	.....	263.3	373.8	70	56
Key West, Fla	T.	.....	37	68	69	72	77	81	79	81	79	81	78	71	53	28	.....	269.8	368.7	73	42
Little Rock, Ark	T.	.....	48	56	50	62	64	66	72	72	72	70	59	62	60	54	.....	235.6	372.3	63	49
Louisville, Ky	T.	.....	52	43	43	48	59	67	73	77	77	75	73	76	66	44	.....	240.0	374.2	64	46
Memphis, Tenn	P.	.....	49	50	62	67	74	70	75	81	83	79	63	58	23	2	.....	239.2	372.1	64	64
New Orleans, La	T.	.....	45	64	80	91	94	96	92	93	85	80	76	72	54	23	.....	297.1	372.1	80	79
New York, N. Y	T.	.....	8	11	43	59	76	80	82	84	78	72	66	52	27	7	.....	219.9	374.1	59	45
Philadelphia, Pa	T.	.....	28	47	45	52	53	67	67	73	77	77	69	60	51	23	.....	224.5	372.6	60	41
Portland, Me	T.	.....	11	24	40	49	59	64	70	73	69	70	68	53	25	8	.....	200.1	373.5	54	37
Portland, Oreg	P.	.....	21	20	34	43	41	49	49	49	56	53	52	51	40	39	.....	165.5	375.6	44	38
Rochester, N. Y	T.	.....	29	43	43	41	46	47	53	62	56	47	44	31	29	2	.....	165.4	375.2	44	56
St. Louis, Mo	T.	.....	33	40	61	69	77	86	90	88	91	87	85	84	74	48	.....	284.7	373.7	76	65
Salt Lake City, Utah	T.	.....	68	74	75	88	89	92	88	88	87	77	72	69	66	69	.....	299.1	375.0	80	70
San Diego, Cal	P.	.....	9	18	29	46	75	77	75	79	80	83	80	76	68	44	.....	237.4	372.0	64	54
San Francisco, Cal	P.	.....	21	24	55	76	82	89	94	94	98	97	92	83	66	47	.....	287.6	372.6	77	79
Santa Fe, N. Mex	P.	.....	59	78	81	85	90	87	79	88	82	84	83	81	74	35	.....	304.1	372.1	82	77
Savannah, Ga	P.	.....	30	39	59	57	64	54	51	51	59	56	58	56	46	37	.....	198.7	371.8	53	47
Spokane, Wash	P.	.....	61	47	54	59	65	67	61	49	60	59	59	54	46	59	.....	214.4	377.6	57	35
Tucson, Ariz	P.	.....	77	84	88	94	91	95	92	96	92	90	91	84	77	54	.....	330.0	370.7	89	75
Vicksburg, Miss	T.	.....	56	60	63	72	77	87	92	93	88	87	70	71	61	47	.....	281.8	371.2	76	74
Washington, D. C	P.	.....	38	33	50	64	71	76	73	60	62	63	62	54	49	51	.....	220.2	373.1	59	53
Wilmington, N. C	T.	.....	33	30	42	55	64	64	64	58	49	50	42	31	25	15	.....	175.6	371.7	47	51

TABLE IV *b.*—*Hourly precipitation, September*, 1894.

Station.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Total.
Atlanta, Ga	0.20	0.06	0.01	0.01	0.01	T.	T.	T.	T.	0.00	0.00	0.00	0.00	0.00	0.21	0.16	0.06	0.16	1.48	0.96	0.58	1.05	0.52	0.35	5.82
Baltimore, Md	0.19	0.12	0.26	0.36	0.06	0.05	0.05	0.06	0.12	0.16	0.21	0.25	0.03	0.50	0.02	0.03	0.02	0.17	0.12	0.47	0.41	0.59	0.29	0.21	4.75
Bismarck, N. Dak	2.00	0.85	0.09	0.00	0.00	0.00	0.00	0.00	T.	T.	0.07	T.	T.	0.01	0.01	0.01	T.	0.01	T.	T.	0.30	0.15	0.20	0.05	3.83
Boston, Mass	0.31	0.17	0.01	0.17	0.12	0.36	0.02	T.	0.01	0.02	0.07	T.	0.00	T.	0.01	0.02	0.12	0.07	0.11	0.17	0.09	0.06	0.05	0.13	2.09
Buffalo, N. Y	0.01	0.10	0.46	0.65	0.08	0.36	0.09	0.23	0.10	0.24	0.96	0.27	0.16	0.07	0.11	0.06	0.05	0.12	0.35	0.23	0.09	0.22	0.55	0.03	5.59
Chicago, Ill*	0.14	0.04	0.39	0.35	0.24	0.10	0.22	0.12	0.12	0.04	T.	0.00	0.00	0.00	T.	0.05	0.62	0.11	0.40	0.30	0.38	0.05	0.00	0.27	4.00
Cincinnati, Ohio	0.10	0.22	0.14	0.06	0.15	0.25	0.03	0.06	0.04	0.03	0.07	0.17	T.	0.05	0.08	0.01	0.46	0.03	0.02	0.03	0.03	0.02	0.03	0.33	2.41
Cleveland, Ohio	0.05	0.05	0.07	0.06	0.05	0.15	0.16	0.21	0.21	0.43	0.22	0.01	0.01	T.	0.02	0.02	0.00	0.67	0.41	0.19	0.06	0.11	0.11	T.	3.30
Denver, Colo	0.10	0.14	0.15	0.05	T.	T.	0.22	0.12	T.	0.00	T.	0.00	0.00	0.00	0.00	0.00	0.01	0.00	T.	0.35	0.01	0.02	0.14	0.04	1.55
Detroit, Mich	0.18	0.34	0.23	0.12	0.03	0.20	0.11	0.13	0.12	0.16	0.00	0.00	0.01	0.32	T.	0.13	0.01	0.03	0.00	0.08	0.18	0.00	0.08	0.01	2.47
Dodge City, Kans	0.12	0.23	0.33	0.13	0.22	0.11	0.07	0.08	0.03	T.	T.	T.	0.02	0.05	0.04	0.06	0.07	0.05	0.05	0.07	T.	T.	0.07	0.23	2.03
Duluth, Minn	0.07	0.01	0.00	0.00	0.00	0.00	0.00	T.	0.00	T.	0.00	T.	0.02	0.22	0.13	0.19	0.16	0.13	0.31	0.49	0.08	T.	0.06	0.17	2.04
Eastport, Me	0.02	0.02	0.01	0.19	0.09	0.01	0.06	0.03	0.01	0.03	0.21	0.02	0.07	0.06	0.09	0.05	0.04	0.03	0.00	0.02	0.04	0.11	0.13	0.16	1.46
Galveston, Tex	0.00	T.	0.00	T.	0.02	0.22	0.06	0.08	0.08	0.29	0.52	0.22	0.40	0.21	0.01	T.	0.04	0.52	T.	T.	T.	0.00	0.00	0.00	2.07
Indianapolis, Ind	0.20	0.02	0.12	0.11	0.01	0.06	0.39	0.47	T.	0.00	T.	0.01	T.	T.	0.00	0.00	0.20	0.00	0.00	0.00	0.15	T.	0.05	T.	1.79
Jacksonville, Fla	0.07	0.18	0.41	0.46	0.87	0.85	0.94	1.25	0.74	1.19	1.09	0.85	1.13	1.16	1.20	1.07	0.67	0.39	0.97	0.15	0.62	0.22	0.12	0.03	16.63
Jupiter, Fla	0.31	1.00	0.14	0.17	0.30	0.20	0.03	0.00	1.16	0.29	0.75	0.40	0.63	0.50	0.60	0.82	0.64	0.80	0.61	0.25	0.32	0.30	0.44	0.59	13.65
Kansas City, Mo	0.29	0.51	0.74	2.02	0.96	0.55	0.48	0.24	0.01	T.	0.01	0.11	0.01	0.04	0.00	T.	T.	T.	0.17	0.36	0.30	0.28	0.03	0.01	7.12
Key West, Fla†	0.48	0.31	0.07	0.03	0.97	0.25	0.14	1.10	0.42	0.43	0.38	1.12	1.16	0.51	1.25	0.91	0.92	1.82	1.74	1.23	0.20	0.50	0.02	0.03	16.30
Marquette, Mich	0.09	0.05	0.07	0.19	0.43	0.33	0.30	0.25	0.12	0.10	0.14	0.07	0.12	0.03	0.06	0.01	0.03	0.02	T.	0.03	0.08	0.06	0.07	0.07	2.72
Memphis, Tenn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	T.	0.11	0.01	0.04	0.00	0.35	0.25	0.12	0.47	0.16	0.05	T.	T.	0.01	0.02	0.01	0.00	1.60
Milwaukee, Wis	0.08	1.09	0.29	0.52	0.09	0.29	0.31	0.43	0.09	0.07	T.	T.	0.07	0.08	0.01	0.01	0.01	0.04	1.04	0.32	0.02	0.06	0.04	0.11	5.07
Nantucket, Mass	0.06	0.04	0.05	0.06	0.05	0.05	0.05	0.01	0.04	0.11	0.23	0.03	0.01	0.03	0.06	0.14	0.15	0.18	0.13	0.16	0.44	0.20	0.17	0.19	2.64
Nashville, Tenn	0.02	T.	T.	T.	T.	0.20	T.	0.22	0.44	0.70	0.17	0.03	0.17	0.02	T.	0.72	0.22	T.	0.00	T.	T.	0.06	0.03	0.03	3.07
New Orleans, La	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	T.	T.	0.00	0.10	0.25	0.20	0.04	0.03	0.20	0.09	0.01	0.00	0.00	0.00	0.92
New York, N. Y	T.	0.01	T.	0.00	0.14	T.	0.06	0.12	0.59	0.76	0.25	0.40	0.71	0.25	1.14	0.62	0.96	0.37	0.25	0.58	0.40	0.14	0.17	T.	7.92
Norfolk, Va	0.69	0.17	0.82	0.14	0.47	0.73	0.30	0.44	0.42	0.18	0.09	0.06	0.17	0.17	0.13	0.16	0.16	0.29	0.11	0.10	0.01	0.09	0.17	0.37	6.44
Omaha, Nebr	0.01	0.21	0.15	0.01	0.00	0.00	0.22	0.07	0.37	0.39	0.29	0.07	0.07	0.21	0.11	0.05	0.08	0.08	0.02	0.00	0.00	0.00	0.00	0.00	2.44
Philadelphia, Pa	0.04	T.	0.00	0.00	0.02	0.05	0.22	0.11	0.07	0.03	0.13	0.15	0.15	0.22	0.07	0.02	T.	0.20	0.50	0.80	0.52	0.52	0.76	0.52	5.11
Pittsburg, Pa	0.41	0.05	0.11	0.01	T.	0.01	T.	0.10	0.03	0.02	T.	0.03	0.60	0.07	0.05	0.13	0.17	0.51	T.	T.	0.20	0.23	0.19	0.75	3.67
Portland, Me	0.04	0.16	0.36	0.19	0.08	0.04	0.13	0.30	0.00	0.04	T.	0.05	0.06	0.08	0.02	0.01	0.01	0.17	0.16	0.35	0.18	0.11	0.04	0.00	2.76
Portland, Oreg	0.06	0.10	0.03	0.03	0.06	0.09	0.05	0.01	0.03	0.02	0.03	0.07	0.05	0.02	0.02	0.02	0.10	0.10	0.13	0.04	0.09	0.05	0.02	T.	1.33
Rochester, N. Y	0.03	0.02	0.02	0.06	0.05	0.27	0.28	0.17	0.08	0.04	0.14	0.18	0.14	0.09	0.11	0.08	0.14	0.17	0.11	0.09	0.04	0.01	0.02	0.18	2.52
St. Louis, Mo	0.01	0.01	0.40	0.08	0.07	0.11	0.03	0.03	0.03	0.01	0.13	0.17	0.41	0.09	0.09	0.32	0.65	0.35	0.00	T.	0.01	0.02	T.	0.00	3.02
St. Paul, Minn	T.	T.	T.	0.00	0.00	0.00	0.01	0.03	0.00	0.07	0.03	0.00	T.	0.01	0.35	0.14	0.11	0.06	0.11	0.08	T.	0.29	0.30	0.21	1.80
Salt Lake City, Utah	0.49	0.29	0.14	0.09	0.07	0.06	0.06	0.09	0.06	0.06	0.07	0.06	0.05	0.04	0.03	0.03	T.	0.02	0.24	0.32	0.09	0.14	0.12	0.16	2.78
San Diego, Cal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
San Francisco, Cal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.16	0.04	0.13	0.03	0.05	0.05	0.03	0.06	0.10	0.13	0.11	0.07	T.	T.	0.00	0.00	1.00
Savannah, Ga	0.16	0.32	0.10	0.09	0.07	0.11	0.20	0.44	0.91	0.23	0.20	0.39	0.38	0.38	0.42	0.61	0.64	0.46	0.38	0.24	0.78	0.11	0.19	0.06	7.88
Seattle, Wash	0.08	0.05	0.06	0.03	0.01	0.00	0.00	0.06	0.12	0.14	0.19	0.10	0.17	0.04	T.	0.02	0.04	0.48	0.09	0.08	0.14	0.07	0.25	0.13	2.48
Vicksburg, Miss	0.00	0.00	0.00	0.00	0.00	0.05	0.22	0.02	T.	0.00	0.00	0.00	T.	0.06	0.20	0.48	0.11	0.36	0.44	0.67	0.13	0.01	0.00	0.00	2.75
Washington, D.C	0.04	0.15	0.27	0.10	0.05	0.06	0.05	0.05	0.03	T.	T.	0.10	T.	0.02	0.08	0.05	0.06	0.01	T.	0.02	0.09	0.07	0.12	0.03	1.45
Wilmington, N. C	0.09	0.19	0.25	0.06	0.35	0.89	0.33	0.65	0.30	0.04	0.02	0.05	0.31	0.15	0.29	0.29	0.62	0.31	0.19	0.32	0.17	0.12	0.20	0.15	6.34

*Record for 25 days only.

†Record incomplete and partly estimated.

TABLE V.—*Mean temperature for each hour of seventy-fifth meridian time, September*, 1894.

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Abilene, Tex	71.1	70.4	69.5	69.0	68.3	67.5	67.2	66.9	69.3	72.1	75.3	77.7	79.9	81.7	83.2	84.3	84.7	83.8	82.2	79.4	76.6	74.7	73.6	72.2	75.0
Albany, N. Y	61.7	61.2	60.6	60.0	59.5	59.1	59.1	61.0	63.7	66.5	69.2	71.0	72.6	73.4	74.0	73.4	72.5	70.9	68.3	66.5	65.3	64.1	62.9	62.1	65.8
Alpena, Mich	57.1	56.4	55.2	54.6	53.5	53.0	53.8	56.3	58.0	59.9	61.5	62.5	63.7	64.7	65.0	65.4	64.9	63.6	61.6	59.8	58.9	58.4	57.9	57.4	59.3
Amarillo, Tex	62.9	62.1	61.1	60.2	59.1	58.4	57.5	56.8	57.7	61.8	65.9	69.2	71.7	73.9	75.5	76.2	75.8	75.8	74.6	71.5	69.0	67.0	65.3	63.4	66.4
Atlanta, Ga	69.6	68.9	68.2	67.6	66.8	66.5	66.7	68.2	70.8	73.4	76.0	77.8	79.1	80.2	80.5	80.4	79.8	78.3	75.9	74.3	73.4	72.2	71.1	70.3	73.4
Augusta, Ga	71.1	70.5	69.9	69.4	68.8	68.6	69.4	71.5	74.6	77.6	79.5	81.0	82.2	83.1	83.1	82.3	81.5	80.2	78.3	76.2	74.7	73.6	72.9	71.7	75.5
Baker City, Oreg	52.2	51.0	49.4	48.2	47.6	46.2	45.3	44.5	44.3	45.8	50.5	55.4	58.3	60.6	62.7	63.6	64.2	64.2	63.9	62.8	59.9	56.8	54.9	53.1	54.4
Baltimore, Md	67.2	66.7	66.2	65.5	64.9	64.6	64.8	66.9	68.9	71.4	73.4	74.8	75.3	75.9	76.5	76.4	75.6	73.4	72.1	70.6	69.8	69.0	68.3	67.5	70.2
Bismarck, N. Dak	54.6	52.8	51.5	50.4	49.3	48.0	47.5	47.4	49.6	54.3	58.2	61.9	64.2	64.8	67.1	68.0	66.3	68.0	66.9	62.8	60.0	58.0	56.3	54.9	57.7
Boston, Mass	61.9	61.2	60.8	60.3	59.8	59.6	60.5	62.3	64.3	66.2	67.7	68.8	69.6	69.9	69.6	68.9	67.8	66.7	65.8	64.7	63.9	63.1	62.6	62.2	64.5
Buffalo, N. Y	63.4	62.8	62.3	61.9	61.6	61.5	61.9	63.6	65.8	67.8	69.1	70.2	71.4	71.7	71.5	71.2	70.5	68.9	67.1	65.9	65.0	64.2	63.8	63.6	66.1
Charleston, S. C	74.8	74.3	73.8	73.2	72.8	72.2	72.4	74.2	76.4	79.6	80.0	81.2	81.6	81.7	81.9	81.2	80.5	79.5	78.1	77.2	76.8	76.4	76.1	75.3	77.1
Charlotte, N. C	68.3	67.7	66.9	66.2	65.9	65.5	65.8	68.3	70.3	72.7	74.6	76.0	77.5	78.4	79.4	78.9	78.2	76.4	74.2	72.8	71.4	70.6	69.7	68.8	71.8
Cheyenne, Wyo	51.3	49.5	48.7	48.1	47.1	46.3	45.8	46.0	51.0	57.4	60.9	63.2	64.7	65.9	66.2	66.2	66.5	65.6	63.9	61.2	57.7	55.8	53.7	52.1	56.5
Chicago, Ill	65.4	64.7	64.0	62.9	62.5	61.9	61.4	62.0	63.4	65.1	66.7	68.2	68.8	69.5	70.2	70.8	71.1	70.7	69.8	68.4	67.3	66.7	65.7	65.4	66.4
Cincinnati, Ohio	67.9	67.1	66.5	65.9	65.2	64.7	64.4	65.1	67.6	70.2	72.5	75.0	76.6	77.2	78.1	78.6	77.9	77.2	75.6	73.4	72.2	70.8	69.5	68.6	71.2
Cleveland, Ohio	63.5	63.1	62.7	62.2	61.7	61.2	61.1	63.1	65.7	68.7	70.5	72.1	72.5	72.1	71.2	71.5	71.5	70.1	69.4	68.0	66.5	65.4	64.7	64.2	66.8
Colorado Sp'gs, Colo	53.3	52.4	51.0	49.9	49.5	48.1	47.1	49.8	50.9	57.6	62.0	64.8	66.6	67.9	69.1	70.6	70.7	70.2	68.5	65.1	62.3	59.6	56.5	55.1	59.0
Columbus, Ohio	64.5	63.5	62.5	61.9	61.1	61.0	61.1	63.2	65.8	69.1	71.9	74.1	75.1	76.2	76.8	76.4	75.7	74.3	72.6	71.0	69.1	67.6	66.2	65.0	68.6
Denver, Colo	56.9	57.6	56.3	55.4	54.5	53.6	52.8	51.8	52.8	57.3	62.5	66.7	69.5	71.3	73.0	74.4	74.4	73.7	73.0	70.4	66.7	64.2	62.4	60.1	63.1
Des Moines, Iowa	62.8	61.7	61.0	59.9	59.1	58.3	57.7	58.4	60.9	65.2	68.5	71.5	73.6	74.6	75.6	76.2	74.9	74.4	72.2	69.3	67.3	65.9	64.4	63.0	66.5
Detroit, Mich	62.3	61.9	61.7	61.1	60.6	60.0	60.0	62.2	64.7	67.1	68.3	70.1	71.2	72.0	72.3	72.0	72.1	70.8	68.8	67.0	65.4	64.2	63.3	62.4	65.9
Dodge City, Kans	63.6	62.5	61.6	60.4	59.6	59.0	58.6	58.6	61.1	64.8	69.4	72.5	75.0	76.7	78.2	79.2	79.5	78.9	77.2	72.7	70.2	67.9	65.8	64.5	68.2
Duluth, Minn	57.2	57.0	56.1	55.6	55.1	54.5	54.0	54.5	55.8	57.7	60.1	61.7	63.5	64.9	65.7	65.8	65.5	64.8	62.7	61.3	60.0	59.0	58.1	57.7	59.5
Eastport, Me	53.2	52.8	52.1	52.2	61.8	52.4	53.6	55.0	56.6	58.1	59.7	60.6	60.6	61.0	60.0	59.6	58.5	56.9	55.6	55.5	54.9	54.7	54.2	53.6	56.0
El Paso, Tex	69.8	68.4	67.2	66.8	65.4	63.9	62.7	61.5	63.5	68.0	72.4	76.5	79.1	81.5	83.3	84.6	85.3	84.7	83.6	80.2	77.2	74.1	71.9	70.7	73.4
Fort Smith, Ark	69.4	68.5	67.7	67.1	66.4	65.8	65.5	66.5	68.6	71.3	73.6	76.4	77.8	79.3	80.5	81.0	81.1	80.3	78.4	76.1	74.1	72.6	71.1	70.0	72.9
Galveston, Tex	79.2	79.0	78.9	78.6	78.3	88.0	77.5	77.8	78.6	79.5	80.5	81.1	81.5	82.0	82.1	82.3	82.0	81.4	80.8	80.2	80.0	79.7	79.6	79.4	79.9
Grand Haven, Mich	62.6	61.9	61.1	60.6	59.5	58.7	58.7	59.5	61.7	63.5	64.9	65.8	66.6	67.3	67.6	67.8	68.3	68.0	66.8	65.3	64.5	63.9	63.4	63.1	63.7
Havre, Mont	49.3	48.2	47.8	47.3	46.1	44.8	44.3	44.0	45.2	48.0	54.1	57.6	60.9	63.3	64.7	66.3	66.4	66.5	65.0	62.2	57.5	54.7	53.2	50.8	54.5
Helena, Mont	50.8	50.2	49.9	49.0	47.8	47.0	46.3	45.5	45.5	48.0	50.1	53.1	55.6	58.0	59.6	60.6	61.2	61.3	60.5	58.9	56.5	54.5	52.7	51.3	53.1
Huron, S. Dak	57.0	55.2	53.5	52.4	52.0	50.8	50.4	51.2	56.2	62.3	67.5	70.8	73.4	74.5	74.9	75.5	75.7	74.6	72.2	68.4	65.2	62.5	59.8	57.8	63.1
Indianapolis, Ind	65.6	64.8	63.9	62.6	62.2	61.8	61.5	63.3	67.2	71.2	74.2	75.9	77.4	78.7	79.1	79.5	78.5	77.0	74.7	71.9	70.0	68.2	66.9	65.9	70.1
Jacksonville, Fla	74.6	74.4	74.0	73.7	73.4	73.2	73.7	76.1	78.2	80.4	81.3	82.6	83.0	82.5	82.4	82.2	81.6	80.1	78.1	76.9	76.1	75.8	75.4	74.9	77.7
Kansas City, Mo	65.8	64.9	64.5	63.9	62.8	62.2	61.7	61.5	62.9	65.8	69.2	71.4	73.3	74.8	75.8	76.7	76.9	76.1	73.7	71.2	69.6	67.9	66.7	65.7	68.5
Key West, Fla	80.3	79.7	80.3	80.1	79.8	79.4	80.1	81.8	82.8	83.9	84.6	84.1	84.5	84.7	84.6	84.5	83.6	82.4	81.2	81.0	80.8	80.4	80.7	80.6	81.9
Knoxville, Tenn	68.6	67.8	67.1	66.6	65.8	65.1	65.1	66.7	69.2	72.5	74.8	76.4	77.6	78.9	79.9	80.3	79.3	78.4	76.4	74.8	73.0	71.6	70.3	69.3	72.3
Lander, Wyo	49.4	48.4	46.7	45.6	44.3	43.2	42.3	41.6	44.4	50.8	55.7	59.0	61.8	63.6	64.4	65.4	65.6	65.2	64.6	61.5	55.9	53.7	52.1	50.6	54.0
Little Rock, Ark	69.6	68.9	68.5	67.6	67.4	66.8	66.2	66.9	68.6	71.1	74.2	76.7	78.2	78.9	79.8	80.0	80.0	79.5	77.5	74.9	73.3	72.0	70.9	70.0	72.8
Louisville, Ky	67.9	66.8	65.9	65.4	64.7	64.3	64.2	65.8	68.1	71.3	74.6	76.4	78.5	80.2	81.1	81.0	80.7	79.4	76.9	74.4	72.3	70.5	69.2	68.1	72.0
Lynchburg, Va	66.9	66.6	65.7	65.2	64.7	64.3	64.7	66.9	69.4	71.9	74.3	75.7	77.2	78.1	78.1	78.6	78.1	76.5	74.3	71.8	70.7	69.5	68.3	67.4	71.0
Marquette, Mich	59.3	58.6	58.0	58.1	57.3	56.4	55.9	56.6	58.5	60.7	63.5	65.5	66.3	67.1	67.6	67.5	66.6	64.9	63.0	61.3	60.1	59.1	58.6	58.4	61.2
Memphis, Tenn	69.5	69.1	68.7	68.1	67.6	67.1	66.9	68.1	70.1	73.3	76.1	78.3	79.1	80.2	80.9	80.5	80.2	79.1	77.2	74.9	73.4	72.2	71.1	69.8	73.4
Milwaukee, Wis	62.5	61.8	61.0	60.4	59.9	59.1	59.0	60.3	62.5	65.0	66.5	67.5	68.3	68.1	68.6	69.0	68.5	68.1	66.6	65.8	65.1	64.3	63.5	62.6	64.3
Montgomery, Ala	72.3	71.6	70.8	70.4	69.7	69.2	69.1	71.7	74.7	77.9	80.8	82.4	84.4	85.2	86.0	85.4	84.0	82.9	80.2	78.8	77.1	75.8	74.6	73.5	77.0
Moorhead, Minn	55.5	53.6	51.9	50.5	49.5	48.5	48.0	49.4	53.9	58.3	62.5	66.0	68.4	70.0	70.9	71.5	71.2	70.0	67.3	63.9	61.2	58.8	56.8	55.4	59.7
Nantucket, Mass	63.0	62.9	62.7	62.7	62.7	62.8	64.2	65.4	65.9	67.0	67.7	68.1	68.5	68.3	67.5	66.7	65.3	64.2	63.6	63.2	63.1	63.1	63.0	62.8	64.8
Nashville, Tenn	69.6	68.6	67.4	66.7	65.8	65.2	64.9	66.4	69.1	72.2	75.0	77.3	78.7	79.7	80.5	80.3	80.1	79.6	77.9	76.1	74.6	72.9	71.3	70.1	72.9
New Haven, Conn	62.4	61.8	61.1	60.5	60.0	59.8	60.9	63.2	65.5	67.6	69.4	70.6	71.3	72.1	72.0	71.9	70.7	69.1	67.5	66.2	65.1	64.2	63.5	62.6	65.8
New Orleans, La	75.8	75.5	75.0	74.9	74.6	74.2	74.3	75.5	78.2	80.4	81.8	83.0	83.7	84.1	84.0	83.5	82.9	82.6	81.0	80.1	78.2	77.2	76.6	76.1	79.0
New York, N. Y	66.8	66.4	66.0	65.5	65.0	64.9	65.0	65.9	66.8	68.8	70.9	72.0	72.8	73.3	73.4	73.5	72.8	71.6	70.3	69.6	68.9	68.4	67.5	67.1	68.9
Norfolk, Va	70.7	70.5	70.1	70.0	69.8	69.7	70.4	72.2	73.9	75.5	76.7	77.4	77.9	78.2	77.8	77.5	76.5	75.2	73.7	72.9	72.2	71.7	71.3	70.9	73.4
North Platte, Nebr	59.3	57.6	56.5	55.1	53.9	52.7	51.4	50.8	54.1	59.9	65.2	69.4	73.0	75.1	77.0	77.5	77.6	77.3	74.7	70.8	67.0	64.5	62.4	60.2	64.3
Omaha, Nebr	64.7	63.5	62.3	61.3	60.3	59.5	58.9	59.4	61.3	64.1	66.3	68.5	70.4	72.2	73.8	74.8	75.1	74.0	72.4	70.8	68.7	67.6	66.1	65.0	66.7
Parkersburg, W. Va	65.0	64.3	63.5	62.8	62.3	62.1	62.5	64.9	68.8	72.1	74.9	76.9	78.2	79.7	80.3	80.4	79.7	78.0	75.0	72.2	69.9	68.2	66.6	65.4	70.6
Philadelphia, Pa	66.4	65.9	65.6	65.1	64.6	64.3	64.6	66.0	67.6	69.6	71.4	72.9	74.0	74.8	75.1	75.1	74.3	73.0	71.2	70.0	68.7	68.0	67.0	66.4	69.2
Pikes Peak, Colo	27.3	26.8	26.5	26.5	26.2	25.7	25.6	25.7	26.4	26.7	27.6	28.6	29.8	31.3	32.2	33.0	33.4	32.8	32.1	30.7	29.9	29.2	28.5	27.5	28.7
Pittsburg, Pa	65.7	65.2	64.5	63.9	63.6	63.4	63.4	64.9	67.3	70.3	72.8	74.9	76.2	76.7	77.0	76.8	75.6	74.0	72.3	70.8	69.2	68.2	67.1	66.3	69.6
Portland, Oreg	59.6	58.5	57.3	56.7	55.5	54.7	54.1	53.7	52.8	53.4	54.9	56.7	58.6	60.9	62.8	63.9	65.3	66.2	66.3	66.1	64.2	62.8	61.3	60.3	59.4
Rapid City, S. Dak	55.5	54.0	53.5	52.7	52.0	51.8	51.1	50.9	53.9	59.0	63.1	65.9	67.7	69.2	70.3	71.0	71.4	70.8	69.0	66.0	62.2	59.6	57.4	55.5	60.1
Red Bluff, Cal	74.5	72.7	71.1	69.3	67.5	66.1	64.9	63.9	63.4	64.9	68.8	72.4	75.8	78.9	81.6	83.8	85.4	86.2	86.5	85.7	83.7	80.8	77.8	75.5	75.0
Rochester, N. Y	60.1	59.4	59.2	58.6	58.2	57.9	58.9	61.9	65.7	68.6	70.8	72.6	73.3	73.5	73.0	72.3	71.1	68.6	66.2	64.5	63.3	62.4	61.6	60.7	65.1
Roseburg, Oreg	57.5	55.7	54.4	53.2	52.7	51.7	51.2	50.5	50.1	51.1	53.5	57.2	60.6	63.5	65.6	67.5	68.9	70.2	69.9	69.5	67.9	64.6	62.5	59.4	59.6
St. Louis, Mo	68.2	67.4	66.1	65.6	64.8	64.2	63.7	64.3	66.1	68.8	71.2	73.4	74.5	75.9	77.1	77.2	76.5	75.8	74.0	72.6	71.2	70.2	69.1	68.4	70.3
St. Paul, Minn	59.5	58.5	57.7	56.8	55.9	55.0	54.1	54.2	56.3	60.0	64.1	67.0	68.9	70.5	71.3	72.4	72.4	71.8	70.3	67.5	65.0	63.2	61.4	60.2	63.1
Salt Lake City, Utah	57.2	56.4	55.9	55.3	54.9	54.3	53.5	53.6	54.0	57.0	60.8	64.2	66.3	68.0	69.0	69.7	69.4	69.2	67.5	65.6	62.5	60.1	58.4	57.2	60.8
San Diego, Cal	63.6	63.2	62.7	62.4	62.3	62.3	62.2	61.8	61.8	63.1	65.0	66.9	69.0	69.6	69.9	69.6	69.8	69.8	69.2	68.0	65.9	65.3	64.7	64.3	65.5
San Francisco, Cal	59.5	58.7	58.3	58.4	58.1	58.1	57.8	57.4	57.3	58.1	60.4	63.0	65.7	67.0	68.4	69.1	68.0	66.7	65.3	63.8	63.0	62.3	61.4	60.4	61.9
Santa Fe, N. Mex	55.4	54.6	53.9	53.2	52.0	50.9	49.8	49.3	52.6	56.2	58.5	61.3	63.2	65.0	66.4	67.8	68.3	67.7	67.0	64.7	60.8	58.3	56.5	55.6	58.7
Sault Ste. Marie, Mich	52.9	52.5	52.2	51.9	51.8	51.5	51.8	52.8	54.6	57.0	59.0	61.0	62.3	63.1	63.5	63.3	62.5	60.2	57.8	56.5	55.5	54.7	53.8	53.2	56.5
Savannah, Ga	73.2	72.9	72.5	72.4	72.0	71.6	72.0	74.5	76.4	79.0	80.8	81.7	82.6	82.5	82.2	81.3	80.3	79.0	77.4	76.4	75.6	74.9	74.3	73.9	76.6
Seattle, Wash	56.7	55.9	55.5	54.8	54.3	53.8	53.4	53.1	52.9	53.0	53.8	55.5	56.8	58.1	59.3	60.9	61.5	62.0	61.6	61.4	60.0	58.7	57.6	56.9	57.0
Shreveport, La	72.0	71.2	70.7	70.0	69.4	68.7	68.3	69.6	72.4	75.8	78.8	81.1	82.6	83.6	84.2	84.5	83.7	82.9	80.9	78.4	76.9	75.3	74.0	73.2	76.2
Spokane, Wash	54.4	53.5	52.3	51.4	49.9	49.3	48.5	48.2	47.9	49.7	53.0	56.4	59.5	61.8	63.1	64.5	65.0	65.5	65.0	64.3	62.0	59.8	57.2	55.5	56.6
Titusville, Fla	76.4	76.4	75.9	75.7	75.2	75.1	76.1	78.2	80.1	81.6	82.1	82.5	83.2	82.2	82.4	81.9	80.7	80.1	79.1	78.5	78.3	77.9	77.4	76.9	78.9
Toledo, Ohio	63.6	62.8	62.2	61.4	61.0	60.3	60.2	61.7	64.2	66.7	69.2	71.2	72.2	72.8	72.9	72.9	72.4	71.0	69.0	67.3	66.1	65.1	64.6	63.7	66.5
Tucson, Ariz	74.5	72.6	70.2	68.7	67.5	66.0	65.2	64.5	64.6	68.4	75.4	82.2	85.5	87.7	89.7	90.8	91.0	90.7	89.7	86.5	82.7	79.9	77.5	76.1	77.8
Vicksburg, Miss	71.5	70.8	70.1	69.7	69.2	68.5	68.4	69.8	72.5	75.1	77.8	80.4	81.6	83.2	83.6	83.5	82.6	81.4	78.9	76.4	75.0	74.0	73.0	72.0	75.4
Washington, D. C	66.7	66.2	65.6	65.1	64.7	64.1	64.6	66.9	69.3	71.8	74.3	76.3	77.6	78.4	78.6	78.5	77.4	75.8	73.3	71.5	70.3	69.0	67.9	67.0	70.9
Williston, N. Dak	51.9	50.3	49.8	48.9	46.8	46.5	45.5	45.1	46.9	49.6	53.5	57.3	60.3	62.5	64.7	65.8	66.6	66.6	65.3	62.2	58.7	55.7	53.6	52.1	55.3
Wilmington, N. C	72.1	71.8	71.3	71.0	70.3	70.1	70.7	72.9	75.6	77.5	79.3	79.9	80.2	80.2	80.1	79.4	78.4	77.2	75.7	74.7	74.0	73.5	72.7	72.4	75.0
Winnemucca, Nev	57.6	56.1	54.1	52.3	50.8	48.1	46.6	44.8	44.1	45.6	51.5	58.1	62.9	66.0	68.5	69.9	71.2	72.0	71.9	71.0	68.7	65.0	62.5	59.2	59.1
Yuma, Ariz	78.6	77.0	75.4	74.7	72.4	71.5	70.7	70.5	71.6	76.2	82.5	87.1	90.3	92.6	94.4	96.3	97.0	96.5	95.4	93.4	88.9	84.2	81.5	79.8	83.3

TABLE VI.—*Mean pressure for each hour of seventy-fifth meridian time, September, 1894.*

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Abilene, Tex	28.207	.207	.210	.207	.208	.218	.228	.239	.246	.252	.253	.249	.231	.209	.185	.163	.152	.148	.149	.156	.172	.190	.197	.204	.203
Albany, N. Y	30.017	.015	.014	.017	.027	.037	.047	.051	.055	.049	.035	.021	.002	.987	.978	.974	.976	.976	.986	.995	.001	.009	.011	.014	.012
Alpena, Mich	29.370	.368	.362	.360	.363	.366	.372	.374	.372	.369	.361	.356	.348	.340	.339	.334	.336	.338	.342	.353	.361	.367	.368	.367	.358
Atlanta, Ga	28.911	.905	.900	.903	.907	.920	.934	.942	.950	.957	.955	.945	.933	.914	.896	.886	.884	.886	.894	.902	.911	.919	.919	.916	.916
Augusta, Ga	29.866	.859	.851	.847	.850	.859	.872	.882	.893	.898	.898	.893	.874	.856	.839	.830	.830	.832	.834	.844	.859	.869	.872	.870	.862
Baltimore, Md	29.900	.894	.894	.899	.906	.917	.925	.927	.932	.929	.921	.911	.897	.880	.870	.866	.864	.869	.877	.886	.896	.898	.896	.896	.898
Bismarck, N. Dak	28.121	.121	.122	.122	.129	.132	.138	.148	.153	.154	.152	.150	.134	.118	.104	.097	.093	.089	.090	.096	.109	.120	.127	.132	.123
Boston, Mass	29.972	.970	.974	.978	.988	.999	.006	.009	.009	.005	.998	.988	.973	.963	.956	.955	.955	.956	.964	.969	.973	.974	.973	.972	.978
Buffalo, N. Y	29.330	.324	.323	.324	.331	.340	.346	.348	.350	.348	.342	.336	.327	.318	.309	.303	.303	.304	.310	.321	.328	.332	.331	.330	.327
Chicago, Ill	29.152	.148	.151	.155	.155	.162	.176	.183	.190	.193	.193	.192	.181	.169	.156	.147	.145	.143	.142	.149	.153	.158	.158	.156	.163
Cincinnati, Ohio	29.405	.402	.400	.406	.408	.414	.425	.430	.437	.437	.432	.421	.409	.393	.380	.372	.372	.375	.382	.390	.402	.410	.412	.408	.405
Cleveland, Ohio	29.263	.263	.263	.266	.274	.284	.294	.302	.305	.305	.302	.291	.277	.265	.258	.253	.254	.257	.263	.271	.271	.267	.264	.261	.274
Colorado Sp'gs, Colo	24.087	.090	.090	.087	.086	.087	.091	.098	.101	.102	.101	.096	.085	.068	.054	.038	.018	.012	.014	.024	.040	.060	.072	.076	.070
Columbus, Ohio	29.176	.173	.170	.173	.176	.184	.192	.197	.199	.200	.193	.182	.167	.152	.141	.135	.140	.144	.149	.161	.170	.175	.177	.178	.171
Denver, Colo	24.790	.789	.789	.785	.784	.784	.791	.798	.806	.810	.812	.811	.799	.783	.763	.747	.738	.732	.734	.739	.753	.768	.778	.780	.778
Des Moines, Iowa	29.070	.075	.082	.086	.092	.100	.108	.114	.117	.122	.120	.113	.101	.082	.064	.051	.047	.044	.042	.050	.059	.067	.069	.075	.080
Detroit, Mich	29.283	.282	.279	.276	.279	.285	.295	.299	.301	.303	.300	.292	.285	.273	.264	.260	.258	.261	.265	.273	.281	.284	.286	.285	.281
Dodge City, Kans*	27.385	.386	.383	.385	.388	.391	.394	.402	.410	.414	.419	.414	.401	.385	.367	.353	.343	.340	.341	.343	.357	.373	.381	.385	.381
Duluth, Minn	29.183	.184	.185	.188	.195	.202	.210	.216	.219	.218	.206	.202	.191	.179	.166	.159	.156	.157	.161	.166	.178	.182	.186	.188	.187
Eastport, Me	30.002	.999	.002	.007	.015	.023	.028	.033	.031	.026	.016	.006	.999	.988	.985	.985	.987	.995	.006	.008	.012	.010	.009	.010	.008
El Paso, Tex	26.214	.215	.216	.216	.216	.219	.227	.237	.251	.260	.269	.269	.255	.236	.217	.189	.170	.159	.152	.151	.160	.178	.195	.206	.212
Galveston, Tex	29.980	.977	.972	.970	.971	.979	.990	.000	.006	.015	.019	.017	.006	.990	.976	.963	.957	.957	.957	.961	.974	.984	.987	.986	.983
Grand Haven, Mich	29.330	.330	.328	.327	.334	.341	.353	.362	.366	.373	.375	.373	.370	.359	.350	.341	.333	.329	.327	.329	.329	.329	.330	.331	.344
Havre, Mont	27.295	.298	.299	.304	.308	.311	.310	.312	.313	.314	.318	.315	.309	.296	.282	.272	.267	.260	.261	.260	.266	.275	.282	.287	.292
Helena, Mont	25.840	.839	.839	.839	.842	.844	.846	.848	.851	.854	.857	.855	.843	.833	.818	.809	.802	.795	.791	.797	.804	.816	.823	.830	.830
Huron, S. Dak	28.530	.532	.537	.535	.539	.541	.547	.556	.560	.562	.556	.547	.531	.520	.507	.497	.485	.486	.489	.498	.516	.528	.533	.537	.528
Indianapolis, Ind	29.242	.244	.245	.244	.249	.254	.266	.277	.283	.288	.286	.282	.270	.254	.239	.225	.221	.222	.223	.230	.238	.242	.246	.244	.251
Jacksonville, Fla	29.965	.956	.948	.946	.952	.963	.974	.982	.986	.986	.980	.969	.954	.937	.921	.919	.920	.932	.941	.956	.968	.975	.976	.972	.957
Kansas City, Mo	29.012	.017	.012	.017	.018	.024	.031	.038	.043	.048	.049	.046	.031	.016	.999	.988	.980	.977	.980	.983	.001	.009	.013	.015	.014
Key West, Fla	29.946	.934	.926	.922	.925	.935	.951	.963	.968	.974	.973	.969	.958	.943	.925	.915	.916	.921	.933	.945	.955	.958	.959	.952	.944
Knoxville, Tenn	29.051	.048	.046	.047	.052	.065	.079	.089	.092	.095	.092	.083	.070	.048	.031	.019	.016	.019	.026	.037	.044	.052	.056	.054	.055
Little Rock, Ark	29.711	.708	.707	.707	.713	.721	.733	.747	.757	.764	.764	.759	.740	.717	.699	.687	.681	.681	.682	.691	.710	.719	.721	.719	.718
Louisville, Ky	29.503	.503	.502	.503	.508	.517	.532	.539	.546	.548	.542	.535	.520	.506	.489	.476	.472	.473	.476	.483	.495	.500	.505	.504	.507
Lynchburg, Va	29.378	.372	.368	.372	.381	.393	.404	.407	.411	.410	.402	.394	.374	.360	.344	.337	.338	.342	.352	.367	.373	.378	.378	.376	.376
Marquette, Mich	29.143	.144	.142	.143	.145	.153	.157	.159	.159	.159	.159	.158	.155	.145	.139	.134	.137	.142	.144	.150	.155	.152	.151	.148	.149
Memphis, Tenn	29.709	.705	.704	.704	.710	.720	.735	.745	.752	.758	.759	.754	.739	.720	.706	.695	.687	.686	.688	.694	.706	.714	.717	.715	.718
Milwaukee, Wis	29.271	.273	.274	.277	.284	.293	.306	.313	.317	.322	.319	.310	.308	.294	.282	.272	.262	.264	.269	.276	.276	.276	.275	.273	.287
Moorhead, Minn	28.876	.883	.880	.882	.885	.888	.895	.897	.899	.902	.900	.890	.875	.858	.848	.841	.839	.843	.849	.855	.865	.874	.879	.881	.874
Nantucket, Mass	30.099	.097	.092	.099	.097	.105	.119	.127	.130	.130	.122	.115	.103	.093	.090	.087	.087	.090	.092	.101	.102	.100	.099	.096	.103
Nashville, Tenn	29.486	.481	.479	.480	.487	.494	.511	.518	.525	.529	.526	.518	.498	.485	.465	.457	.457	.463	.466	.473	.487	.492	.493	.493	.490
New Haven, Conn	29.972	.969	.968	.972	.980	.991	.001	.005	.008	.005	.997	.986	.971	.960	.951	.947	.942	.947	.956	.963	.966	.969	.973	.968	.974
New Orleans, La	29.949	.941	.938	.938	.942	.952	.965	.974	.981	.986	.984	.977	.961	.943	.928	.918	.915	.918	.926	.936	.949	.957	.959	.956	.950
New York, N. Y	29.909	.905	.904	.907	.914	.924	.933	.937	.938	.934	.927	.918	.905	.893	.885	.882	.882	.881	.890	.898	.903	.909	.908	.907	.908
Norfolk, Va	29.994	.989	.983	.983	.991	.001	.013	.017	.023	.024	.020	.012	.997	.984	.975	.971	.969	.973	.980	.992	.001	.999	.998	.995	.995
Omaha, Neb	28.808	.812	.812	.811	.820	.825	.833	.838	.841	.842	.839	.836	.826	.809	.795	.781	.775	.775	.777	.782	.795	.803	.810	.812	.811
Parkersburg, W. Va.	29.419	.416	.416	.420	.425	.431	.442	.448	.451	.453	.446	.437	.423	.408	.394	.385	.380	.382	.386	.399	.409	.414	.417	.420	.418
Philadelphia, Pa	29.984	.979	.976	.977	.983	.993	.003	.010	.013	.011	.004	.993	.978	.965	.956	.953	.953	.952	.961	.972	.978	.981	.982	.979	.981
Pikes Peak, Colo	17.931	.923	.919	.909	.902	.899	.894	.893	.897	.907	.926	.929	.932	.939	.939	.939	.934	.931	.933	.931	.928	.932	.930	.926	.922
Pittsburg, Pa	29.216	.215	.214	.214	.218	.224	.235	.243	.247	.243	.232	.217	.205	.186	.175	.171	.174	.180	.190	.203	.210	.215	.215	.215	.211
Portland, Oreg	29.849	.849	.854	.858	.858	.858	.859	.862	.869	.876	.879	.883	.883	.874	.862	.850	.841	.829	.824	.820	.821	.831	.840	.845	.853
Rochester, N. Y	29.532	.530	.527	.531	.539	.550	.556	.562	.558	.553	.547	.538	.522	.510	.499	.496	.496	.500	.507	.517	.523	.529	.530	.530	.528
Roseburg, Oreg	29.443	.445	.449	.449	.451	.450	.452	.454	.458	.463	.468	.474	.473	.468	.460	.449	.437	.422	.415	.411	.409	.411	.424	.437	.445
St. Louis, Mo	29.434	.434	.440	.441	.449	.459	.472	.479	.484	.491	.489	.483	.470	.452	.428	.419	.413	.410	.412	.417	.432	.436	.439	.438	.447
St. Paul, Minn	29.044	.048	.051	.055	.060	.066	.076	.084	.089	.091	.087	.084	.069	.050	.033	.023	.015	.011	.014	.017	.028	.038	.045	.048	.051
Salt Lake City, Utah	25.658	.657	.657	.658	.655	.658	.662	.668	.677	.683	.689	.690	.683	.672	.650	.644	.638	.630	.628	.629	.628	.638	.643	.647	.656
San Diego, Cal	29.831	.829	.829	.825	.822	.820	.821	.824	.837	.846	.854	.858	.853	.844	.836	.825	.815	.809	.807	.809	.813	.821	.832	.837	.829
San Francisco, Cal	29.789	.792	.791	.791	.788	.785	.782	.788	.797	.811	.820	.829	.831	.828	.816	.805	.791	.778	.768	.763	.763	.769	.781	.790	.794
Santa Fe, N. Mex	23.359	.358	.358	.359	.358	.359	.362	.367	.374	.384	.390	.394	.388	.373	.359	.343	.332	.324	.320	.317	.323	.342	.347	.351	.355
S'lt Ste. Marie, Mich	29.296	.292	.288	.287	.287	.288	.295	.295	.295	.293	.290	.288	.286	.279	.272	.271	.274	.276	.284	.286	.294	.296	.293	.294	.288
Savannah, Ga	29.924	.919	.913	.913	.919	.934	.946	.955	.964	.965	.960	.951	.935	.913	.902	.898	.896	.900	.909	.923	.930	.932	.931	.927	.927
Seattle, Wash	29.836	.835	.837	.840	.840	.841	.843	.843	.847	.852	.858	.863	.860	.861	.852	.847	.840	.832	.830	.825	.825	.827	.831	.834	.842
Spokane, Wash	27.956	.957	.958	.960	.958	.958	.960	.964	.973	.980	.986	.985	.978	.974	.967	.961	.951	.940	.932	.930	.931	.936	.940	.948	.958
Toledo, Ohio	29.349	.348	.338	.338	.341	.348	.358	.363	.369	.371	.366	.361	.353	.342	.334	.327	.327	.329	.332	.343	.347	.351	.350	.347	.347
Vicksburg, Miss	29.765	.759	.753	.751	.752	.760	.769	.781	.789	.793	.798	.793	.784	.767	.756	.745	.745	.749	.758	.768	.772	.778	.777	.774	.768
Washington, D. C	29.986	.979	.976	.978	.983	.990	.002	.007	.012	.012	.004	.998	.980	.966	.956	.949	.948	.953	.957	.971	.979	.983	.982	.981	.981
Wilmington, N. C	29.949	.942	.938	.941	.947	.960	.975	.980	.988	.988	.980	.975	.957	.946	.936	.936	.941	.942	.950	.958	.965	.967	.963	.959	.958
Yuma, Ariz	29.665	.668	.670	.671	.671	.672	.677	.688	.706	.716	.724	.731	.722	.709	.687	.662	.643	.629	.619	.619	.621	.634	.650	.660	.671

* For 28 days only.

TABLE VII.—*Average wind movement for each hour of seventy-fifth meridian time, September, 1894.*

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Abilene, Tex	8.5	8.6	7.4	7.9	8.1	7.5	7.2	6.8	7.7	11.0	12.1	12.1	11.4	10.8	10.9	11.0	11.5	11.8	11.2	9.8	7.4	7.3	7.6	8.2	9.3
Albany, N. Y	4.0	3.7	3.4	4.2	3.8	3.9	4.1	5.4	6.0	6.9	8.1	8.4	9.0	9.1	9.0	8.5	7.6	5.4	5.1	5.2	4.7	4.3	4.4	4.1	5.8
Alpena, Mich	5.9	6.0	6.4	6.1	6.0	5.9	6.0	7.2	8.0	9.3	10.4	10.9	11.5	12.8	12.8	12.5	11.2	10.6	8.7	8.2	6.6	6.3	6.1	6.3	8.4
Amarillo, Tex	15.8	16.3	15.7	15.3	15.7	14.7	14.8	14.9	14.4	17.2	17.7	17.5	17.5	17.5	17.2	18.1	18.4	18.1	17.7	16.3	15.4	17.4	16.9	15.9	16.5
Atlanta, Ga	8.1	8.0	8.7	8.0	7.8	7.7	7.5	7.7	7.6	8.4	9.5	9.8	10.2	10.1	10.0	9.4	9.6	8.6	7.7	8.0	8.2	8.2	8.4	8.7	8.6
Atlantic City, N. J	10.3	10.4	10.1	10.1	10.4	10.8	10.9	11.4	12.3	13.0	13.3	14.0	14.0	14.4	14.1	14.4	13.3	12.3	12.0	12.5	11.7	11.4	11.7	11.3	12.1
Augusta, Ga	2.2	2.2	2.3	2.5	2.8	2.5	2.5	3.2	3.6	4.6	5.3	5.0	6.0	6.0	6.5	6.2	5.7	5.0	3.6	2.8	2.0	2.1	2.3	2.6	3.7
Baker City, Oreg	3.4	3.7	4.2	4.9	4.8	4.6	3.9	4.8	4.8	5.9	4.5	3.9	5.0	6.0	6.1	6.6	6.8	7.2	6.6	6.4	4.4	3.4	2.6	3.3	4.9
Baltimore, Md	5.0	4.6	4.6	4.2	4.7	4.9	5.1	5.6	6.4	7.5	7.9	8.5	9.5	9.2	8.4	8.8	8.3	7.7	6.8	6.6	6.6	6.1	5.6	5.1	6.6
Bismarck, N. Dak	7.8	6.8	6.3	6.1	6.4	6.0	6.2	6.2	7.0	9.1	12.5	13.3	14.3	16.1	16.9	16.6	16.8	15.6	13.4	10.9	9.9	9.8	9.5	9.2	10.5
Block Island, R. I	12.9	12.3	11.8	13.0	12.9	12.9	13.8	14.5	15.5	15.7	15.0	15.6	16.4	16.5	16.6	16.8	16.0	15.9	15.9	15.2	15.5	15.4	14.6	14.2	14.8
Boston, Mass	7.5	7.9	7.7	7.8	8.2	7.9	7.7	8.2	8.7	9.5	9.9	10.3	11.2	11.2	11.2	11.0	10.8	10.1	9.7	8.9	9.4	9.3	8.8	8.5	9.2
Buffalo, N. Y	8.4	8.8	8.9	8.8	8.8	8.7	7.8	8.5	9.4	9.9	10.2	10.2	10.6	11.0	11.4	10.2	9.6	9.7	10.0	9.5	9.3	9.3	9.0	8.7	9.5
Cairo, Ill	5.8	6.3	5.9	5.3	5.9	5.9	6.0	6.2	6.7	7.3	8.0	8.6	8.8	8.9	9.1	8.6	9.2	8.0	6.3	6.0	6.1	6.1	5.9	6.1	6.9
Cape Henry, Va	12.0	12.8	13.1	13.2	13.1	13.5	14.4	15.0	15.6	15.3	14.6	15.2	16.5	15.8	15.5	15.4	14.7	13.9	14.1	13.9	13.7	13.5	13.5	13.1	14.2
Charleston, S. C	6.2	6.5	6.9	6.8	6.8	6.5	7.0	7.5	8.4	8.8	9.8	10.4	11.4	12.1	12.9	12.0	12.3	10.8	10.0	8.8	8.7	8.0	7.6	7.1	8.9
Charlotte, N. C	5.7	5.4	5.6	5.2	5.1	5.0	5.7	5.6	6.7	7.3	7.3	7.5	7.5	7.2	6.8	7.3	6.6	6.5	5.6	5.4	5.6	5.5	5.5	5.5	6.1
Chattanooga, Tenn	3.5	3.0	3.2	3.4	3.3	3.6	3.2	4.0	5.0	5.9	6.5	7.3	8.0	8.3	8.5	8.7	8.3	7.8	6.8	4.9	4.2	4.3	4.1	3.5	5.4
Cheyenne, Wyo	6.9	7.2	7.7	7.9	8.5	7.7	7.4	7.3	7.6	10.0	13.5	14.6	15.0	15.8	15.8	15.3	14.9	14.2	13.2	12.1	9.5	8.2	8.4	8.0	10.7
Chicago, Ill	16.4	16.4	16.1	17.2	17.5	17.6	17.0	17.2	15.6	16.3	15.3	15.6	16.5	16.2	17.1	17.2	17.0	15.7	14.2	13.7	13.9	15.3	17.3	16.7	16.2
Cincinnati, Ohio	4.4	4.0	4.3	4.2	4.4	3.9	4.4	5.0	5.9	6.9	7.7	8.1	9.4	9.5	9.3	9.3	9.7	8.7	7.4	6.2	5.9	5.8	5.3	5.0	6.4
Cleveland, Ohio	12.5	12.8	13.1	13.1	13.0	12.4	11.8	11.7	11.8	11.4	12.4	13.3	14.2	15.2	15.8	15.3	13.4	12.2	10.5	10.7	11.1	11.5	11.6	12.1	12.6
Colorado Spr'gs, Colo.	8.4	8.6	7.8	7.6	7.6	7.3	7.7	7.2	6.6	6.0	7.2	8.0	10.2	10.6	11.5	11.6	12.2	11.1	10.8	10.3	8.3	7.9	9.4	9.0	8.9
Columbia, Mo	5.3	4.9	4.9	4.6	4.7	4.6	4.5	5.3	5.7	6.7	7.2	7.7	7.7	8.3	8.3	8.6	8.0	7.3	6.0	5.1	5.9	6.3	5.7	5.9	6.2
Columbus, Ohio	5.9	6.2	6.1	5.5	6.0	5.7	5.3	6.0	7.6	8.0	8.6	9.0	9.5	9.8	10.3	10.2	9.8	9.2	7.6	7.5	8.0	7.6	7.4	6.8	7.6
Concordia, Kans	7.8	8.2	8.5	7.5	6.9	5.8	4.7	4.2	5.8	8.0	9.2	9.5	10.1	10.1	10.1	10.8	10.5	10.1	9.2	7.8	6.7	6.8	6.9	7.5	8.0
Corpus Christi, Tex	11.2	9.8	8.5	7.8	7.1	6.5	6.6	7.5	7.5	8.5	9.2	10.0	10.6	11.9	13.7	14.2	14.3	14.6	14.7	15.0	14.5	14.4	13.6	12.8	11.0
Davenport, Iowa	7.0	7.0	7.5	7.2	6.9	6.0	6.5	6.0	6.6	7.8	8.8	9.7	9.8	10.2	10.4	10.6	10.1	9.4	7.9	6.9	6.5	6.7	6.8	6.9	7.9
Denver, Colo	6.2	6.6	6.1	5.8	6.4	6.5	5.3	5.6	5.6	5.2	5.7	5.7	6.9	7.5	7.3	7.7	7.9	9.0	8.3	8.5	8.8	8.5	7.4	6.8	6.9
Des Moines, Iowa	6.9	6.8	5.9	5.6	5.1	5.2	4.9	5.2	5.8	7.6	9.2	10.0	10.9	10.6	10.7	10.8	10.8	9.6	8.3	7.4	7.4	6.6	7.0	7.0	7.7
Detroit, Mich	8.6	8.1	8.2	8.2	8.6	9.0	8.5	8.7	9.4	10.5	11.7	12.1	12.4	12.7	12.5	12.8	12.0	11.1	9.0	8.9	9.0	8.4	8.4	8.5	9.9
Dodge City, Kans	10.3	10.7	10.5	11.6	10.5	9.8	9.3	9.7	10.5	12.8	14.7	14.8	15.1	15.4	15.7	15.6	15.5	16.1	15.3	12.3	9.9	9.8	10.4	11.2	12.4
Duluth, Minn	5.4	5.5	5.2	6.0	5.6	5.4	4.9	4.7	5.3	6.1	6.8	7.6	8.3	8.5	8.5	8.4	7.7	7.3	6.5	5.3	5.6	5.3	5.4	5.7	6.3
Eastport, Me	7.2	7.0	6.5	6.7	7.4	6.8	6.8	8.1	8.5	8.7	10.0	10.1	10.8	10.9	10.8	10.3	8.7	9.0	9.1	8.5	8.5	7.9	8.0	7.9	8.5
El Paso, Tex	9.1	9.0	9.2	9.9	9.9	8.8	8.4	8.5	8.7	8.1	10.1	11.1	11.4	11.0	11.8	12.5	12.8	13.0	11.9	11.8	10.1	7.8	7.6	8.6	10.0
Erie, Pa	11.0	11.2	11.2	11.5	11.6	11.6	10.9	10.5	10.7	11.1	10.8	10.8	10.8	11.0	11.4	11.1	10.4	9.2	8.4	8.8	9.7	10.0	10.9	11.1	10.6
Eureka, Cal	4.6	4.1	4.0	3.5	3.8	4.2	3.9	3.7	3.4	2.9	2.7	3.7	4.7	7.4	8.5	10.3	12.3	13.4	13.4	11.9	10.8	9.1	6.5	5.2	6.6
Fort Canby, Wash	12.2	11.7	11.8	11.9	12.3	11.2	11.6	11.7	12.5	13.0	13.1	12.8	13.5	14.9	15.8	16.1	16.6	16.8	15.9	15.8	15.8	15.0	15.0	14.9	13.8
Fort Smith, Ark	5.3	5.4	5.5	5.3	5.7	5.7	4.9	6.1	6.4	6.5	6.6	6.1	6.4	7.1	6.8	7.5	7.6	7.4	6.0	6.0	5.8	6.2	5.9	5.7	6.2
Fresno, Cal	8.6	8.8	7.5	6.7	6.4	5.8	5.5	5.6	4.6	4.2	3.9	4.8	5.8	5.9	5.5	5.0	5.6	5.8	5.8	6.1	6.0	6.1	7.1	8.4	6.1
Galveston, Tex	8.7	8.6	8.7	8.7	9.4	9.0	8.7	8.1	9.1	9.5	9.5	9.1	9.6	9.6	9.2	9.3	8.8	9.0	8.6	8.1	8.4	8.3	8.5	8.9	8.9
Grand Haven, Mich	7.6	8.4	7.9	8.3	8.7	8.7	9.2	9.1	10.5	11.7	11.9	11.9	12.1	11.8	11.9	11.4	10.6	8.9	7.1	7.0	7.2	7.5	8.1	8.0	9.4
Green Bay, Wis	5.9	5.9	6.7	7.1	6.9	6.9	6.8	6.9	6.9	8.3	9.3	10.3	10.6	10.7	10.8	10.6	10.2	9.0	7.2	5.7	5.8	5.7	6.5	6.2	7.8
Hannibal, Mo	8.1	7.0	7.0	6.2	5.8	6.8	6.2	6.0	6.4	7.7	8.6	9.4	9.8	10.2	10.7	10.5	11.0	10.2	8.7	7.4	7.2	7.7	7.9	7.8	8.1
Harrisburg, Pa	4.5	4.3	4.1	4.2	4.3	4.2	4.2	4.7	5.7	6.8	6.7	6.3	7.1	8.0	7.7	7.7	7.4	6.4	5.8	5.4	5.0	4.6	4.1	4.6	5.6
Hatteras, N. C	10.6	10.1	9.8	10.0	9.8	9.5	9.9	10.5	11.5	11.8	12.4	12.2	12.8	12.9	12.8	12.4	12.6	11.6	11.3	11.3	11.3	11.4	11.2	11.2	11.3
Havre, Mont	6.7	7.0	6.9	6.5	7.1	7.0	7.1	7.4	6.6	9.0	10.7	13.1	14.1	14.7	14.9	14.7	14.7	13.4	12.5	11.1	8.0	6.9	7.1	6.3	9.8
Helena, Mont	8.6	8.1	8.3	7.7	7.1	6.4	6.3	5.8	5.3	5.1	6.0	5.9	8.0	8.7	9.7	10.3	10.3	10.1	9.6	9.8	8.1	8.6	9.1	9.1	8.0
Huron, S. Dak	13.7	13.6	13.2	12.7	12.8	12.9	12.1	12.1	12.7	13.6	15.0	16.0	17.6	19.0	19.7	20.0	20.9	20.5	19.1	16.1	14.2	14.5	13.3	13.1	15.3
Idaho Falls, Idaho	9.2	8.2	7.8	8.3	8.5	7.6	6.8	7.0	7.7	8.5	9.2	9.7	10.4	11.3	11.1	11.5	11.5	12.5	11.5	11.3	10.8	10.8	10.2	10.1	9.6
Indianapolis, Ind	4.4	4.4	4.1	4.0	4.3	4.2	4.1	4.2	5.6	6.4	6.7	7.1	7.4	7.6	7.7	7.7	8.2	7.2	5.7	4.7	4.5	4.9	4.2	4.6	5.6
Jacksonville, Fla	6.4	6.2	6.0	6.0	6.1	6.1	6.4	6.6	7.8	8.8	10.1	9.9	10.6	10.5	10.8	10.4	10.2	9.6	7.9	6.0	6.3	6.2	5.8	6.2	7.8
Jupiter, Fla	9.5	9.1	8.4	8.2	8.0	8.2	7.8	7.9	9.4	9.9	11.1	11.7	11.6	11.3	11.6	12.1	11.4	11.1	10.2	9.8	10.4	10.4	9.8	9.8	9.9
Kansas City, Mo	7.8	7.7	7.5	6.8	7.0	6.8	6.4	6.5	7.6	8.4	9.0	9.4	9.8	9.5	9.8	9.9	9.9	9.0	8.1	6.4	6.7	7.3	7.3	7.5	8.0
Keokuk, Iowa	5.7	5.4	4.8	5.5	5.8	5.7	5.2	4.6	5.8	6.2	7.3	7.5	7.9	8.5	8.5	8.1	8.2	7.1	5.8	5.3	6.0	6.3	6.1	6.5	6.4
Key West, Fla	7.3	7.9	7.6	7.6	7.9	8.7	7.9	8.6	9.9	10.6	11.1	12.1	11.7	11.7	11.2	11.0	10.8	10.3	9.2	9.3	9.4	8.2	8.6	8.2	9.5
Kittyhawk, N. C	12.7	13.2	13.2	13.6	13.9	14.0	13.6	14.6	14.5	15.2	14.7	15.1	14.8	16.3	17.0	17.3	17.4	16.3	15.7	16.2	15.4	14.7	13.9	13.5	14.9
Knoxville, Tenn	2.6	2.6	2.3	2.7	2.4	2.7	2.6	3.3	4.8	5.7	6.3	6.8	7.1	6.9	7.1	7.1	6.9	6.4	4.6	3.9	3.3	3.0	2.9	2.8	4.5
La Crosse, Wis	7.4	7.1	6.7	6.9	6.6	6.2	5.8	6.2	6.6	7.7	8.2	9.2	9.7	9.7	9.5	9.7	10.1	8.5	7.5	6.2	6.3	6.4	6.8	7.3	7.6
Lander, Wyo	3.9	4.8	3.7	3.6	3.3	2.8	2.8	2.9	3.3	3.5	3.6	4.0	5.5	6.2	7.0	8.9	9.1	9.1	7.6	6.5	5.9	5.6	4.8	4.2	5.1
Lexington, Ky	9.1	9.0	9.1	9.1	8.9	9.3	8.9	9.2	9.9	10.7	11.0	10.4	10.6	11.0	11.2	10.2	10.0	8.8	7.6	7.8	8.2	8.9	9.2	9.5	9.5
Little Rock, Ark	3.9	4.1	3.4	3.8	4.0	4.2	4.5	4.4	5.8	6.7	7.1	7.1	7.2	7.0	6.5	6.8	6.6	6.5	5.8	5.3	4.8	4.3	4.1	3.4	5.3
Los Angeles, Cal	2.2	2.3	1.9	1.7	1.8	1.7	1.5	1.7	1.9	1.9	2.0	2.6	2.9	3.4	4.0	5.9	7.0	7.7	7.3	6.0	5.4	3.8	2.7	2.5	3.5
Louisville, Ky	5.3	5.5	4.9	4.9	4.9	5.0	5.0	5.6	5.9	7.1	8.1	8.9	9.1	8.6	8.8	8.8	8.7	8.1	6.7	6.2	6.5	5.8	5.7	5.7	6.7
Lynchburg, Va	3.0	3.0	2.8	3.0	3.1	2.6	2.7	3.5	4.2	5.2	5.2	5.6	5.6	5.6	5.3	5.5	5.3	4.9	4.3	3.7	3.1	2.8	2.6	2.7	4.0
Marquette, Mich	12.4	13.1	11.8	12.0	11.0	10.0	9.2	10.0	11.7	12.1	13.4	13.9	14.0	14.6	14.6	14.6	12.9	11.0	9.2	9.3	9.1	9.4	10.1	11.2	11.7
Memphis, Tenn	5.0	5.2	5.2	4.9	5.0	4.8	4.7	5.0	5.9	6.7	7.0	7.7	8.4	8.0	8.1	7.6	7.5	7.0	6.3	5.4	5.2	5.1	5.1	5.3	6.1
Meridian, Miss	2.7	2.9	2.4	2.4	2.8	2.7	2.8	3.4	4.0	5.6	6.1	6.2	6.5	7.2	8.0	7.8	6.8	6.0	4.2	3.5	2.8	2.9	2.7	3.0	4.4
Miles City, Mont	3.2	3.6	3.7	4.0	4.0	5.1	5.1	4.6	4.6	5.0	6.6	8.0	8.0	9.1	9.7	9.4	9.3	9.0	8.8	6.3	4.7	3.5	3.8	3.7	6.0
Milwaukee, Wis	7.6	8.6	9.1	9.1	9.4	9.4	8.9	9.0	9.9	10.3	11.1	11.4	11.9	11.7	11.8	12.1	11.5	9.7	7.9	7.6	7.8	7.9	8.2	8.4	9.6
Mobile, Ala	5.7	6.3	6.2	5.8	5.9	5.9	6.4	6.0	6.9	7.0	7.5	7.7	8.5	8.5	9.6	10.1	10.4	9.4	7.3	6.4	5.7	5.8	5.8	5.4	7.1
Montgomery, Ala	5.6	5.4	4.8	4.3	4.3	3.8	3.9	4.5	5.7	7.1	7.7	8.4	8.9	9.1	8.8	9.1	9.6	8.6	6.9	5.8	5.4	5.3	5.3	5.2	6.4
Moorhead, Minn	11.8	11.5	11.9	11.2	11.4	10.6	10.5	10.1	10.6	11.3	12.7	13.7	15.1	15.6	16.3	15.5	15.6	15.9	13.8	11.7	12.0	12.0	12.0	12.1	12.7
Nantucket, Mass	8.4	9.1	8.6	8.6	8.8	9.0	8.8	10.4	11.9	12.3	12.5	12.7	12.4	12.3	11.7	10.9	10.3	9.5	8.9	9.0	8.9	9.0	9.2	9.1	10.1
Nashville, Tenn	4.0	4.6	3.7	3.9	3.5	3.6	3.7	4.5	5.5	7.2	8.3	8.8	8.9	9.1	8.9	8.8	8.2	7.9	6.2	5.3	4.8	5.0	4.7	4.7	6.0
New Haven, Conn	5.1	5.3	5.7	5.8	5.7	6.3	6.2	7.3	8.3	8.3	8.4	9.0	9.9	10.2	10.3	9.9	9.1	8.1	7.3	6.6	6.7	6.5	6.1	5.9	7.4
New London, Conn	4.6	4.7	5.1	5.2	5.6	5.5	5.7	6.5	6.2	7.0	8.7	9.8	10.3	10.8	10.1	9.6	9.0	6.9	5.9	5.9	5.6	5.6	5.9	5.3	6.9
New Orleans, La	4.8	4.8	4.9	4.8	5.2	5.3	5.2	6.1	7.1	8.5	9.0	8.6	9.4	9.8	9.3	9.3	8.7	7.1	6.1	4.8	5.1	5.3	5.3	4.9	6.6
New York, N. Y	7.8	8.4	8.3	8.3	8.8	9.1	8.6	9.3	10.0	10.4	10.6	10.6	10.5	10.4	11.2	10.9	10.5	10.2	9.0	8.8	9.7	9.3	9.2	8.4	9.5
Norfolk, Va	6.3	6.1	6.1	6.5	6.4	6.6	6.5	7.2	8.4	9.0	9.2	10.1	10.1	10.0	9.9	10.0	9.9	8.4	7.8	7.1	6.8	7.3	7.3	6.9	7.9
Northfield, Vt	5.7	4.7	5.7	5.3	4.7	4.6	4.7	4.5	4.9	7.3	8.4	9.6	9.7	10.2	10.4	9.8	9.7	7.2	6.7	7.8	7.0	7.3	7.1	5.9	7.0
North Platte, Nebr	10.4	9.8	9.2	8.5	8.1	7.5	6.9	7.0	6.4	7.6	9.3	11.4	12.4	14.2	14.4	14.7	14.6	13.8	13.4	13.4	11.5	11.7	11.9	12.0	10.8
Oklahoma, Okla	9.9	9.6	9.0	8.9	8.5	8.2	8.4	8.7	9.6	10.7	11.9	12.3	12.4	12.7	12.3	12.5	12.3	12.8	12.1	10.1	9.5	9.0	9.9	10.1	10.5
Omaha, Nebr	8.1	8.1	7.0	6.3	5.9	5.8	5.5	5.7	6.9	8.3	9.4	9.5	10.2	10.2	10.5	10.2	10.2	10.1	9.0	7.6	7.2	7.0	7.5	7.5	8.1
Oswego, N. Y	8.1	8.5	8.7	9.0	9.3	8.9	9.1	9.7	9.6	10.4	10.1	9.9	10.2	9.9	9.2	9.7	9.0	8.3	8.1	8.8	9.6	9.7	8.9	8.8	9.2

TABLE VII.—*Average wind movement, etc.*—Continued.

Stations.	1 a. m.	2 a. m.	3 a. m.	4 a. m.	5 a. m.	6 a. m.	7 a. m.	8 a. m.	9 a. m.	10 a. m.	11 a. m.	Noon.	1 p. m.	2 p. m.	3 p. m.	4 p. m.	5 p. m.	6 p. m.	7 p. m.	8 p. m.	9 p. m.	10 p. m.	11 p. m.	Midnight.	Mean.
Palestine, Tex.....	4.2	4.2	4.1	3.9	3.9	3.3	3.1	3.3	4.5	5.4	6.1	5.9	5.9	5.8	5.7	5.7	5.5	5.8	4.9	3.6	3.9	4.4	4.5	4.5	4.7
Parkersburg, W. Va ..	3.1	2.9	2.8	2.9	2.8	3.0	3.3	3.4	4.5	5.3	5.3	4.7	5.6	5.4	5.7	6.2	5.9	4.9	3.8	3.3	3.9	3.5	3.2	3.1	4.1
Pensacola, Fla	8.3	8.5	8.9	9.3	10.2	9.5	9.9	8.8	9.8	10.5	11.3	10.6	10.6	10.2	11.1	11.4	11.4	9.5	8.1	7.3	6.7	7.3	8.2	7.4	9.4
Philadelphia, Pa	7.7	8.1	8.1	8.1	8.0	7.6	8.3	9.6	10.2	10.6	11.0	11.5	11.8	12.2	12.2	12.3	11.3	9.9	9.3	9.1	9.4	8.6	8.8	8.4	9.7
Pierre, S. Dak	8.3	7.6	7.0	6.7	7.2	6.5	6.3	6.9	6.6	9.2	11.6	12.2	13.6	13.9	14.2	14.5	14.5	14.3	14.2	13.3	11.9	10.7	9.9	9.7	10.4
Pikes Peak, Colo	24.7	25.3	25.5	26.9	29.1	28.1	28.3	29.2	28.0	25.6	23.0	20.4	19.6	16.6	16.0	15.9	15.8	15.9	16.3	17.8	20.2	21.5	23.7	25.1	22.4
Pittsburg, Pa	4.0	4.1	4.1	3.9	4.3	4.0	4.2	4.6	6.1	6.4	6.6	6.6	7.3	7.0	7.9	7.7	8.6	7.3	6.8	6.2	6.1	5.4	4.6	4.3	5.8
Port Angeles, Wash..	3.9	4.5	4.1	4.2	4.0	4.0	4.6	4.3	4.5	4.0	3.0	3.9	4.6	5.4	5.5	6.0	5.9	5.6	6.1	5.7	4.8	4.7	3.4	3.4	4.6
Port Huron, Mich ...	9.7	9.6	9.6	10.1	9.9	9.8	9.2	8.9	9.8	10.9	11.9	12.6	13.4	13.2	12.4	12.4	12.3	11.8	10.6	9.4	9.1	8.9	9.4	10.0	10.6
Portland, Me.....	5.1	5.1	5.3	5.5	5.1	5.0	5.6	5.7	5.7	5.5	6.2	6.5	7.4	8.0	8.3	8.0	7.8	6.6	6.6	5.7	5.8	4.9	4.4	4.5	6.0
Portland, Oreg	9.3	9.2	9.3	8.4	8.3	8.2	7.9	8.0	7.8	6.5	7.3	7.8	9.1	9.7	10.4	11.3	10.6	10.8	10.2	10.3	11.5	11.1	10.4	10.1	9.3
Pueblo, Colo	7.1	6.7	6.3	5.8	5.4	4.5	4.3	4.2	4.2	4.8	5.6	6.8	8.2	8.0	8.0	8.0	9.4	10.2	10.4	9.5	8.6	9.3	8.4	7.6	7.1
Raleigh, N. C.....	4.9	5.1	4.8	5.1	5.4	5.3	5.4	5.8	6.5	6.8	6.9	6.9	7.5	6.8	6.8	6.7	6.2	5.3	5.1	4.9	5.0	4.9	5.0	4.8	5.7
Rapid City, S. Dak ...	7.8	7.2	7.4	7.1	6.9	7.1	6.9	7.1	7.2	8.8	11.4	13.2	14.5	15.1	15.0	14.1	13.8	13.4	12.0	9.9	8.2	7.3	8.1	8.3	9.9
Red Bluff, Cal	6.9	6.3	6.4	6.8	6.4	6.1	5.9	6.0	6.6	7.0	7.6	9.2	9.3	9.3	8.8	9.1	8.9	8.8	8.8	9.2	8.6	7.6	8.2	8.0	7.7
Rochester, N. Y	5.4	5.8	5.6	6.1	6.0	5.7	6.0	6.0	6.5	7.7	7.5	7.8	8.5	8.3	8.4	8.1	7.5	6.1	5.0	5.7	5.6	5.6	5.2	5.6	6.5
Roseburg, Oreg	1.7	1.7	1.3	1.2	1.3	1.4	1.2	1.0	1.0	1.2	1.2	1.4	3.1	3.8	4.4	5.0	5.9	6.7	7.4	6.9	6.0	4.4	3.3	2.6	3.1
Sacramento, Cal.....	9.9	9.0	9.6	10.1	9.8	9.0	8.2	7.4	7.8	8.3	7.5	8.2	8.6	8.9	9.1	9.5	9.8	10.1	9.5	9.0	8.9	9.0	10.1	10.1	9.0
St. Louis, Mo.....	9.9	9.6	9.7	9.2	8.9	8.1	7.5	7.6	8.2	9.0	9.9	9.6	10.8	11.0	11.5	12.2	11.7	10.5	10.5	9.6	9.4	9.9	10.2	9.7	9.8
St. Paul, Minn.....	7.7	7.5	6.9	6.3	5.9	5.7	5.7	5.3	6.3	7.9	8.7	10.3	10.9	10.7	11.1	11.2	11.0	10.5	9.8	7.8	7.4	8.1	7.9	7.6	8.3
St. Vincent, Minn	8.2	7.9	7.9	8.5	7.9	7.2	7.0	6.9	8.4	10.2	11.5	12.2	12.4	13.1	12.5	13.0	12.9	12.2	10.1	8.2	7.8	8.5	8.2	8.5	9.6
Salt Lake City, Utah .	5.0	4.5	5.1	5.0	4.8	4.7	5.1	5.1	4.3	4.4	4.0	5.0	7.5	8.5	8.5	8.7	9.4	9.0	7.9	6.8	6.0	6.2	5.9	5.3	6.1
San Antonio, Tex	5.1	4.7	3.9	3.6	3.4	3.6	3.3	3.6	3.6	5.3	6.3	6.6	6.2	6.5	6.7	6.8	7.3	7.5	7.4	6.8	6.6	6.7	6.5	6.3	5.6
San Diego, Cal.....	2.5	2.7	2.5	2.6	2.8	2.8	2.5	2.9	3.1	2.9	2.9	4.4	6.6	8.4	9.6	10.4	10.1	9.5	8.4	7.1	6.1	4.7	3.6	3.3	5.1
Sandusky, Ohio	7.4	6.9	7.0	6.9	6.3	6.1	6.9	6.8	7.2	7.4	8.5	8.1	9.3	8.9	8.8	8.3	8.2	7.7	7.8	7.2	6.8	6.8	6.6	6.4	7.4
San Francisco, Cal....	10.1	9.7	8.0	7.7	7.5	6.9	6.0	6.2	6.4	6.2	6.7	7.2	8.0	9.4	11.8	14.5	17.7	21.6	22.4	23.1	22.5	19.3	14.6	11.8	11.9
San Luis Obispo, Cal .	3.3	3.5	3.0	2.7	2.7	2.6	2.9	3.4	3.6	3.7	3.9	4.4	5.3	6.2	7.6	9.1	10.3	10.4	10.0	9.3	7.5	5.9	4.6	3.5	5.4
Santa Fe, N. Mex.....	5.6	5.5	5.4	5.0	5.0	4.5	3.9	3.8	3.7	4.3	5.5	6.5	8.0	8.6	9.3	9.4	9.2	9.5	9.3	7.9	5.5	6.0	6.8	6.8	6.5
Sault Ste. Marie, Mich.	4.1	4.7	4.8	5.2	5.2	5.6	5.8	5.9	6.5	7.9	9.1	10.2	10.9	11.5	12.4	12.7	12.1	11.1	9.0	7.6	6.2	6.0	5.6	5.5	7.7
Savannah, Ga.....	6.4	6.0	6.0	6.0	6.0	6.5	6.5	7.0	8.0	8.9	9.9	10.6	11.3	11.8	11.9	11.7	10.9	9.8	7.9	7.8	7.4	6.7	6.8	6.8	8.3
Seattle, Wash	5.3	4.9	5.6	5.5	5.7	5.4	5.2	5.4	5.0	4.6	4.7	5.5	6.2	6.4	6.8	7.1	8.1	8.5	8.0	7.7	6.9	7.1	6.0	5.7	6.1
Shreveport, La	4.3	4.4	4.6	4.5	4.2	3.7	4.0	4.0	4.6	5.2	5.5	5.7	6.1	5.8	6.2	5.8	6.1	6.1	5.0	4.6	4.8	5.1	4.6	4.9	5.0
Sioux City, Iowa	10.1	9.8	8.9	8.5	8.0	8.0	7.5	7.7	8.5	10.2	12.2	13.6	14.7	15.1	14.9	15.5	15.5	14.4	13.0	12.1	11.6	11.2	11.3	11.2	11.4
Southport, N. C.*....	9.6	9.2	8.3	8.1	8.9	8.5	9.0	9.6	10.2	10.3	11.4	11.7	12.6	11.9	11.8	12.0	12.1	11.8	10.0	10.1	10.2	10.5	9.8	10.0	10.3
Spokane, Wash.....	5.9	5.2	5.6	5.8	5.7	6.3	5.7	5.4	5.1	5.9	6.6	7.2	8.1	8.7	9.0	9.4	9.2	9.4	8.9	8.3	7.1	6.4	6.5	5.7	7.0
Springfield, Ill	7.7	7.8	8.2	7.6	7.3	7.4	7.7	7.6	8.2	8.6	9.6	10.1	10.8	11.2	10.5	10.8	10.7	9.9	7.7	7.1	7.5	7.8	7.3	7.6	8.6
Springfield, Mo.....	9.3	9.0	8.8	8.6	8.7	8.0	8.1	8.5	9.0	10.7	11.2	11.6	11.1	10.6	11.1	10.7	11.0	10.6	9.3	8.5	8.8	9.3	10.0	9.3	9.7
Tampa, Fla.....	5.4	5.3	5.3	4.9	4.7	5.0	5.0	5.8	6.6	7.5	7.8	8.7	9.0	8.7	8.8	8.9	8.4	7.9	7.2	5.8	6.0	6.1	5.9	5.5	6.7
Tatoosh Island, Wash	10.5	10.5	10.4	10.4	10.9	12.7	11.6	12.8	12.5	12.8	13.1	14.1	12.5	12.6	13.8	14.3	14.1	14.0	12.7	12.8	12.6	12.4	12.0	11.4	12.4
Titusville, Fla	10.7	10.4	10.7	10.3	10.0	8.9	9.2	8.8	11.2	12.2	13.6	14.1	15.4	15.7	15.8	17.0	16.6	15.1	14.4	13.6	13.4	13.0	12.3	11.1	12.6
Toledo, Ohio	7.7	7.7	7.9	7.6	7.4	8.3	8.0	7.5	8.6	9.7	10.6	11.5	12.5	12.0	12.1	11.8	11.5	10.2	8.4	7.2	7.0	6.6	6.6	7.5	9.0
Tucson, Ariz	4.6	4.4	4.0	4.1	3.7	4.1	4.4	4.1	4.1	4.3	4.5	4.7	6.0	6.6	6.8	7.0	7.3	8.2	7.6	6.8	5.5	5.3	5.9	5.4	5.4
Valentine, Nebr	10.9	9.8	9.4	9.6	8.6	8.4	8.8	8.2	8.1	10.1	12.4	14.9	16.4	16.1	16.7	17.0	17.2	17.1	16.5	14.5	12.6	11.2	10.8	10.7	12.3
Vicksburg, Miss	4.3	4.7	4.4	4.6	4.6	4.8	4.9	4.8	4.7	4.8	4.6	5.4	6.3	6.2	6.6	6.1	6.0	5.8	4.5	4.2	4.8	5.1	5.0	4.8	5.1
Vineyard Haven, Mass	7.9	7.9	7.8	7.5	7.8	7.8	7.6	8.9	9.6	10.6	10.9	10.8	10.9	11.0	10.7	10.6	10.1	9.2	9.1	8.7	8.6	8.5	8.6	8.7	9.2
Walla Walla, Wash....	5.7	5.9	5.7	5.3	5.2	5.5	5.1	5.2	5.0	5.4	5.5	6.7	7.6	7.5	7.6	7.3	7.3	7.6	7.1	7.4	6.6	6.4	6.4	5.9	6.3
Washington, D. C.....	3.9	4.0	4.0	4.1	4.3	4.1	4.3	4.7	5.5	6.5	7.4	7.8	7.7	7.9	7.8	7.7	7.6	6.7	5.7	5.0	5.4	5.1	4.4	4.0	5.6
Wichita, Kans	8.5	7.9	8.7	8.2	8.5	8.3	7.5	7.4	7.7	9.3	9.9	11.0	10.9	11.0	11.1	11.0	10.6	10.3	9.0	7.7	7.3	7.3	7.6	8.9	9.0
Williston, N. Dak....	6.0	5.6	5.7	5.8	6.8	6.1	6.9	7.6	8.0	9.2	10.9	11.5	14.1	15.6	16.1	16.0	16.3	16.3	14.2	11.7	8.8	7.3	7.2	7.4	10.1
Wilmington, N. C	7.0	7.0	6.7	6.5	6.5	6.5	6.5	7.0	7.8	8.5	9.2	9.7	10.1	10.3	9.9	9.7	9.9	8.7	7.0	7.1	6.8	6.5	6.6	6.5	7.8
Winnemucca, Nev....	8.5	8.4	7.9	7.8	8.0	7.8	7.9	7.0	6.9	6.3	7.0	7.7	9.4	10.4	11.3	12.2	12.9	13.0	12.9	11.7	9.2	7.1	7.2	7.3	9.0
Woods Holl, Mass ...	12.0	11.9	11.6	10.4	10.4	10.8	10.8	11.4	12.0	11.8	12.6	11.7	12.7	12.2	13.2	12.8	13.0	12.5	12.4	12.3	12.0	12.4	12.9	12.4	12.0
Yuma, Ariz.....	4.0	4.4	3.7	3.8	3.0	3.4	3.3	2.8	3.7	3.7	5.1	6.7	7.4	7.8	7.4	7.3	7.5	7.7	8.1	8.3	7.8	7.1	6.1	5.5	5.6

*Sums and means for 27 days.

TABLE VIII.—*Prevailing and resultant winds from self-registers for September*, 1894.

Number.	Station.	Prevailing wind.		Total movement.		Resultant direction.			Resultant movement.		Azimuth of movement minus direction.	Ratio of resultant movement to total movement.
		Direction from.	Duration.	Monthly.	Hourly average.	Direction from.	Duration.	Average hourly velocity.	Direction from.	Amount.		
	(1)	(2)	(3) Hours.	(4) Miles.	(5) Miles.	(6)	(7) Hours.	(8) Miles.	(9)	(10) Miles.	(11) °	(12)
1	Eastport, Me	sw.	170	6,126	8.5	s. 66 w.	196	4.6	s. 56 w.	901	− 10	0.147
2	Portland, Me	s.	145	4,324	6.0	s. 36 w.	135	7.2	s. 11 w.	979	− 25	0.226
4	Boston, Mass	sw.	153	6,640	9.2	n. 66 w.	79	11.4	n. 86 w.	903	− 20	0.136
5	Nantucket, Mass	w.	211	7,264	10.1	s. 42 w.	168	9.0	s. 8 e.	1,505	− 50	0.207
8	New Haven, Conn	sw.	168	5,350	7.4	s. 49 w.	20	27.5	n. 54 e.	550	−175	0.103
10	Albany, N. Y	s.	269	4,155	5.8	s. 28 w.	179	9.0	s. 19 w.	1,610	− 9	0.388
11	New York, N. Y	ne.	171	6,847	9.5	s. 18 w.	79	6.1	n. 54 e.	478	−144	0.698
13	Philadelphia, Pa	sw.	160	6,967	9.7	s. 8 w.	45	20.7	n. 40 e.	932	−148	0.134
15	Baltimore, Md	ne.	139	4,731	6.6	s. 81 e.	103	11.3	n. 64 e.	1,161	− 35	0.245
16	Washington, D. C	ne.	156	4,066	5.6	s. 68 e.	106	8.7	n. 59 e.	923	− 53	0.227
17	Lynchburg, Va	ne.	192	2,853	4.0	n. 38 e.	157	6.2	n. 36 e.	969	− 2	0.340
18	Norfolk, Va	ne.	204	5,707	7.9	e.	249	8.3	n. 82 e.	2,076	− 8	0.364
24	Wilmington, N. C	ne.	185	5,640	7.8	n. 86 e.	131	14.0	n. 62 e.	1,830	− 24	0.324
26	Augusta, Ga	e.	131	2,686	3.7	n. 51 e.	201	5.6	n. 41 e.	1,000	− 10	0.372
27	Savannah, Ga	ne.	207	5,959	8.3	n. 89 e.	155	11.2	n. 46 e.	1,735	− 43	0.291
28	Jacksonville, Fla	ne.	250	5,602	7.8	n. 67 e.	202	9.1	n. 44 e.	1,845	− 23	0.330
30	Key West, Fla	e.	200	6,809	9.5	s. 62 e.	311	7.3	s. 72 e.	2,269	− 10	0.333
33	Atlanta, Ga	ne.	168	6,173	8.6	n. 48 e.	193	10.5	n. 42 e.	2,021	− 6	0.327
38	Vicksburg, Miss	se.	155	3,662	5.1	n. 63 e.	199	4.5	n. 76 e.	889	+ 13	0.243
39	New Orleans, La	ne.	208	4,782	6.6	n. 65 e.	341	7.6	n. 54 e.	2,601	− 11	0.544
42	Little Rock, Ark	s.	140	3,825	5.3	s. 56 e.	140	4.8	n. 82 e.	678	− 42	0.177
44	Galveston, Tex	se.	220	6,399	8.9	s. 55 e.	349	8.6	s. 65 e.	3,013	− 10	0.470
48	Knoxville, Tenn	ne.	183	3,205	4.5	n. 18 e.	59	7.4	n. 5 e.	448	− 13	0.140
49	Memphis, Tenn	se.	164	4,387	6.1	s. 11 e.	58	15.0	s. 62 e.	870	− 51	0.198
50	Nashville, Tenn	s.	110	3,875	6.0	s. 40 w.	60	4.7	s. 25 w.	283	− 15	0.073
52	Louisville, Ky	s.	173	4,799	6.7	s. 44 e.	110	2.4	s. 11 e.	262	+ 33	0.054
53	Indianapolis, Ind	s.	188	4,027	5.6	s.	150	5.6	s. 16 w.	837	+ 16	0.208
54	Cincinnati, Ohio	se.	166	4,641	6.4	s. 62 e.	153	1.6	s. 31 w.	247	+ 93	0.053
55	Columbus, Ohio	e.	114	5,508	7.6	s. 50 e.	59	11.2	s. 35 w.	662	+ 85	0.120
56	Pittsburg, Pa	se.	153	4,148	5.8	s. 36 e.	113	8.2	s. 8 w.	933	+ 44	0.225
58	Buffalo, N. Y	sw.	188	6,805	9.5	s. 58 w.	163	15.8	s. 76 w.	2,580	+ 18	0.364
60	Rochester, N. Y	sw.	295	4,674	6.5	s. 29 w.	268	7.8	s. 47 w.	2,080	+ 18	0.445
62	Cleveland, Ohio	se.	242	9,092	12.6	s. 66 e.	128	4.7	s. 13 e.	599	+ 53	0.066
64	Toledo, Ohio	e.	159	6,487	9.0	s. 13 w.	62	15.1	s. 60 w.	935	+ 47	0.144
65	Detroit, Mich	sw.	258	7,116	9.9	s. 43 w.	170	14.5	s. 56 w.	2,468	+ 13	0.347
66	Alpena, Mich	se.	209	6,053	8.4	s. 25 w.	217	9.5	s. 31 w.	2,061	+ 6	0.340
67	Grand Haven, Mich	sw.	212	6,772	9.4	s. 26 w.	219	10.9	s. 52 w.	2,381	+ 26	0.352
68	Marquette, Mich	s.	162	8,415	11.7	s. 48 w.	289	15.6	s. 40 w.	4,502	− 8	0.535
70	Sault Ste. Marie, Mich	se.	348	5,564	7.7	s. 44 e.	244	3.5	s. 25 e.	844	+ 19	0.152
71	Chicago, Ill	s.	175	11,680	16.2	s. 33 w.	172	27.6	s. 20 w.	4,743	− 13	0.406
72	Milwaukee, Wis	s.	155	6,910	9.6	s. 14 w.	278	9.5	s. 22 w.	2,648	+ 8	0.383
74	Duluth, Minn	nw.	162	4,533	6.3	n. 60 w.	181	11.7	n. 66 w.	2,114	− 6	0.466
75	Moorhead, Minn	s.	226	9,144	12.7	s. 59 w.	192	11.9	s. 28 w.	2,281	− 31	0.249
77	Bismarck, N. Dak	nw.	249	7,580	10.5	n. 48 w.	195	11.1	n. 48 w.	2,165	0	0.286
79	Saint Paul, Minn	se.	273	5,943	8.3	s. 1 e.	256	8.9	s.	2,286	+ 1	0.385
81	Davenport, Iowa	s.	180	5,677	7.9	s. 1 e.	208	6.8	s. 15 w.	1,405	+ 16	0.247
82	Des Moines, Iowa	s.	237	5,557	7.7	s. 31 w.	192	10.6	s. 30 w.	2,031	− 1	0.365
88	Saint Louis, Mo	s.	237	7,029	9.8	s. 12 e.	193	11.0	s. 1 e.	2,133	+ 11	0.303
90	Kansas City, Mo	se.	202	5,767	8.0	s. 49 e.	303	8.6	s. 42 e.	2,600	+ 7	0.451
92	Omaha, Nebr	se.	281	5,809	8.1	s. 34 e.	227	11.7	s. 36 e.	2,652	− 2	0.456
96	Huron, S. Dak	se.	259	11,051	15.3	s. 87 w.	129	27.5	s. 16 e.	3,544	−103	0.321
98	Havre, Mont	w.	237	7,030	9.8	s. 85 w.	438	10.8	s. 89 w.	4,713	+ 4	0.670
100	Helena, Mont	sw.	208	5,768	8.0	s. 74 w.	468	9.0	s. 70 w.	4,236	− 4	0.734
106	Colorado Springs, Colo	n.	284	6,392	8.9	n. 21 e.	153	6.4	n. 17 e.	982	− 4	0.154
107	Denver, Colo	s.	193	4,967	6.9	s. 12 e.	157	6.4	s. 20 e.	1,012	− 8	0.204
108	Pikes Peak, Colo	w.	213	16,152	22.4	s. 72 w.	323	31.3	s. 69 w.	10,118	− 3	0.626
111	Dodge City, Kans	s.	217	8,929	12.4	s. 44 e.	306	15.1	s. 27 e.	4,630	+ 17	0.518
114	Abilene, Tex	s.	271	6,713	9.3	s. 13 e.	317	10.2	s. 4 e.	3,219	+ 9	0.480
116	El Paso, Tex	ne.	181	7,236	10.0	n. 9 e.	134	10.5	n. 28 w.	1,412	− 37	0.195
117	Santa Fe, N. Mex	sw.	157	4,652	6.5	s. 45 e.	44	12.1	s. 6 w.	534	+ 51	0.115
119	Yuma, Ariz	ne.	116	4,064	5.6	n. 38 e.	29	14.3	s. 77 w.	416	−141	0.102
122	Salt Lake City, Utah	se.	207	4,401	6.1	s. 42 e.	98	4.6	s. 16 w.	456	+ 58	0.104
125	Spokane, Wash	s.	197	5,014	7.0	s. 7 w.	247	11.4	s. 21 w.	2,825	+ 14	0.563
130	Seattle, Wash	se.	326	4,417	6.1	s. 48 e.	239	10.3	s. 48 e.	2,470	0	0.559
132	Portland, Oregon	nw.	287	6,704	9.3	w.	273	9.5	s. 73 w.	2,606	− 17	0.339
133	Roseburg, Oregon	nw.	159	2,252	3.1	n. 39 w.	144	6.3	n. 48 w.	906	− 9	0.402
137	San Francisco, Cal	sw.	526	8,564	11.0	s. 43 w.	563	13.6	s. 46 w.	7,659	+ 3	0.894
140	San Diego, Cal	nw.	253	3,675	5.1	n. 74 w.	467	5.8	n. 79 w.	2,694	− 5	0.733

TABLE IX.—*Resultant winds from observations at 8 a. m. and 8 p. m., daily, during September, 1894.*

Number.	Station.	Component direction from—				Resultant.	
		N.	S.	E.	W.	Direction from—	Duration.
	New England.	*Hours.*	*Hours.*	*Hours.*	*Hours.*	°	*Hours.*
1	Eastport, Me	15	21	11	27	s. 69 w.	17
2	Portland, Me	16	20	13	23	s. 68 w.	11
3	Northfield, Vt	8	42	4	12	s. 13 w.	35
4	Boston, Mass	16	16	16	28	w.	12
5	Nantucket, Mass	9	22	16	24	s. 32 w.	15
6	Woods Holl, Mass	4	17	7	12	s. 21 w.	14
7	Block Island, R. I	14	17	19	25	s. 63 w.	7
8	New Haven, Conn	23	16	17	21	n. 30 w.	8
9	New London, Conn	22	23	13	18	s. 79 w.	5
	Middle Atlantic States.						
10	Albany, N. Y	17	29	7	15	s. 34 w.	14
11	New York, N. Y	20	24	14	16	s. 27 w.	4
12	Harrisburg, Pa	15	14	29	10	n. 87 e.	19
13	Philadelphia, Pa	18	21	17	18	s. 18 w.	3
14	Atlantic City, N. J	16	20	17	22	s. 51 w.	6
15	Baltimore, Md	21	17	23	15	n. 63 e.	9
16	Washington, D. C	24	19	22	11	n. 66 e.	12
17	Lynchburg, Va	23	12	26	11	n. 54 e.	19
18	Norfolk, Va	18	17	30	10	n. 87 e.	20
	South Atlantic States.						
19	Charlotte, N. C	16	18	28	15	s. 81 e.	13
20	Hatteras, N. C	18	16	30	11	n. 84 e.	19
21	Kittyhawk, N. C	19	18	30	8	n. 87 e.	22
22	Raleigh, N. C	25	15	19	13	n. 31 e.	12
23	Southport, N. C	15	14	22	14	n. 83 e.	8
24	Wilmington, N. C	18	18	23	14	e.	9
25	Charleston, S. C	18	16	30	12	n. 84 e.	18
26	Augusta, Ga	21	12	26	12	n. 57 e.	17
27	Savannah, Ga	21	17	24	11	n. 73 e.	14
28	Jacksonville, Fla	21	14	27	12	n. 65 e.	17
	Florida Peninsula.						
29	Jupiter, Fla	7	24	27	13	s. 39 e.	22
30	Key West, Fla	9	18	34	8	s. 71 e.	28
31	Tampa, Fla	21	10	31	13	n. 59 e.	21
32	Titusville, Fla	6	22	33	12	s. 53 e.	26
	Eastern Gulf States.						
33	Atlanta, Ga	25	7	29	15	s. 38 e.	23
34	Pensacola, Fla	28	13	22	14	n. 28 e.	17
35	Mobile, Ala	32	14	8	13	n. 16 w.	19
36	Montgomery, Ala	24	8	27	10	n. 47 e.	23
37	Meridian, Miss	29	13	25	8	n. 47 e.	23
38	Vicksburg, Miss	24	17	28	4	n. 74 e.	25
39	New Orleans, La	27	12	32	7	n. 59 e.	29
	Western Gulf States.						
40	Shreveport, La	17	31	18	5	s. 43 e.	19
41	Fort Smith, Ark	11	13	42	3	s. 87 e.	39
42	Little Rock, Ark	18	28	20	9	s. 48 e.	15
43	Corpus Christi, Tex	15	22	33	4	s. 76 e.	30
44	Galveston, Tex	14	31	24	3	s. 51 e.	27
45	Palestine, Tex	15	28	24	6	s. 54 e.	22
46	San Antonio, Tex	13	21	31	5	s. 73 e.	27
	Ohio Valley and Tennessee.						
47	Chattanooga, Tenn	14	25	11	19	s. 36 w.	14
48	Knoxville, Tenn	25	12	23	15	n. 32 e.	15
49	Memphis, Tenn	20	23	23	10	s. 77 e.	13
50	Nashville, Tenn	20	25	13	15	s. 22 w.	5
51	Lexington, Ky	8	31	15	16	s. 2 w.	23
52	Louisville, Ky	20	26	21	9	s. 63 e.	13
53	Indianapolis, Ind	14	27	19	14	s. 21 e.	14
54	Cincinnati, Ohio	17	19	27	13	s. 82 e.	14
55	Columbus, Ohio	19	22	19	14	s. 59 e.	6
56	Pittsburg, Pa	16	21	23	16	s. 54 e.	9
57	Parkersburg, W. Va	9	23	24	13	s. 38 e.	18
	Lower Lake Region.						
58	Buffalo, N. Y	18	20	15	21	s. 72 w.	6
59	Oswego, N. Y	6	33	19	13	s. 13 e.	28
60	Rochester, N. Y	10	26	16	24	s. 27 w.	18
61	Erie, Pa	15	27	16	15	s. 5 e.	12
62	Cleveland, Ohio	15	22	31	9	s. 72 e.	23
63	Sandusky, Ohio	10	27	20	18	s. 7 e.	17
64	Toledo, Ohio	12	18	21	22	s. 9 w.	6
65	Detroit, Mich	12	23	18	25	s. 32 w.	13
	Upper Lake Region.						
66	Alpena, Mich	12	24	15	25	s. 40 w.	16
67	Grand Haven, Mich	10	26	17	20	s. 11 w.	16
68	Marquette, Mich	10	28	7	24	s. 43 w.	25
69	Port Huron, Mich	15	30	12	18	s. 22 w.	16
70	Sault Ste. Marie, Mich	9	26	27	15	s. 35 e.	21
71	Chicago, Ill	11	35	11	20	s. 21 w.	26
72	Milwaukee, Wis	7	32	14	18	s. 9 w.	25
73	Green Bay, Wis	9	35	9	19	s. 21 w	28
74	Duluth, Minn	20	9	13	29	n. 56 w.	19
	North Dakota.						
75	Moorhead, Minn	21	25	9	17	s. 63 w.	9
76	Saint Vincent, Minn	23	15	13	23	n. 51 w.	13
77	Bismarck, N. Dak	25	10	12	24	n. 39 w.	19
78	Williston, N. Dak	17	18	8	28	s. 87 w.	20
	Upper Mississippi Valley.						
79	Saint Paul, Minn	5	27	24	19	s. 13 e.	23
80	La Crosse, Wis	6	41	6	15	s. 14 w.	36
81	Davenport, Iowa	11	28	21	14	s. 22 e.	18
82	Des Moines, Iowa	17	27	9	18	s. 42 w.	14
84	Keokuk, Iowa	16	28	18	14	s. 18 e.	13
85	Cairo, Ill	21	25	20	8	s. 72 e.	13
86	Springfield, Ill	15	31	13	11	s. 7 e.	16
87	Hannibal, Mo	12	28	15	16	s. 3 w.	16
88	Saint Louis, Mo	17	31	17	8	s. 33 e.	17
	Missouri Valley.						
89	Columbia, Mo	5	13	16	4	s. 56 e.	14
90	Kansas City, Mo	13	30	27	6	s. 51 e.	27
91	Springfield, Mo	11	31	33	1	s. 58 e.	38
92	Omaha, Nebr	13	33	20	8	s. 31 e.	23
93	Valentine, Nebr	25	21	6	18	n. 72 w.	13
94	Sioux City Iowa	19	29	13	7	s. 31 e.	12
95	Pierre, S. Dak	21	25	17	11	s. 56 e.	7
96	Huron, S. Dak	15	27	18	15	s. 14 e.	12
	Northern Slope.						
98	Havre, Mont	15	12	5	40	n. 85 w.	35
99	Miles City, Mont	18	17	18	19	n. 45 w.	1
100	Helena, Mont	10	19	3	41	s. 77 w.	39
101	Rapid City, S. Dak	21	16	9	22	n. 69 w.	14
102	Cheyenne, Wyo	26	11	5	30	n. 59 w.	29
103	Lander, Wyo	13	26	7	29	s. 60 w.	26
105	North Platte, Nebr	14	27	17	17	s.	13
	Middle Slope.						
106	Colorado Springs, Colo	31	16	7	10	n. 11 w.	15
107	Denver, Colo	15	28	17	12	s. 21 e.	14
108	Pikes Peak, Colo	12	18	5	34	s. 78 w.	30
109	Pueblo, Colo	17	16	18	26	n. 83 w.	8
110	Concordia, Kans	10	34	15	7	s. 18 e.	25
111	Dodge City, Kans	13	32	20	6	s. 36 e.	24
112	Wichita, Kans	14	36	21	3	s. 39 e.	28
113	Oklahoma, Okla	14	32	24	1	s. 52 e.	29
	Southern Slope.						
114	Abilene, Tex	12	40	14	2	s. 23 e.	30
115	Amarillo, Tex	14	34	9	6	s. 9 e.	20
	Southern Plateau.						
116	El Paso, Tex	18	11	25	23	n. 16 e.	7
117	Santa Fe, N. Mex	18	20	24	18	s. 72 e.	6
118	Tucson, Ariz	11	28	17	21	s. 13 w.	18
119	Yuma, Ariz	21	15	15	21	n. 45 w.	8
	Middle Plateau.						
....	Carson City, Nev.*	15	17	10	28	s. 84 w.	18
121	Winnemucca, Nev	18	20	11	28	s. 83 w.	17
122	Salt Lake City, Utah	18	19	21	17	s. 76 e.	4
	Northern Plateau.						
123	Baker City, Oreg	20	22	20	19	s. 27 e.	2
124	Idaho Falls, Idaho	12	36	7	21	s. 30 w.	28
125	Spokane, Wash	8	26	13	23	s. 29 w.	21
126	Walla Walla, Wash	5	39	11	18	s. 12 w.	35
	North Pacific Coast Region.						
127	Fort Canby, Wash	16	16	18	23	w.	5
129	Port Angeles, Wash	6	25	12	27	s. 38 w.	24
130	Seattle, Wash	14	24	29	10	s. 62 e.	22
131	Tatoosh Island, Wash	2	35	20	18	s. 3 e.	33
132	Portland, Oreg	23	20	5	28	n. 83 w.	23
133	Roseburg, Oreg	22	12	18	20	n. 11 w.	10
	Middle Pacific Coast Region.						
134	Eureka, Cal	20	17	11	24	n. 77 w.	13
135	Red Bluff, Cal	33	17	7	11	n. 14 w.	16
136	Sacramento, Cal	20	29	7	20	s. 55 w.	16
137	San Francisco, Cal	2	40	3	36	s. 41 w.	50
	South Pacific Coast Region.						
138	Fresno, Cal	28	7	13	31	n. 41 w.	28
139	Los Angeles, Cal	12	7	10	38	n. 80 w.	28
140	San Diego, Cal	21	11	3	38	n. 74 w.	36
141	San Luis Obispo, Cal	14	18	6	33	s. 82 w.	27

* Keeler discontinued and Carson City opened.

TABLE X*a*.—*Temperature data for selected voluntary stations, Sept.*, 1894.

State and station.	Normal for month.	Length of record.	Mean, Sept., 1894.	Departure from the normal.	Extreme monthly means.			
					Highest.	Year.	Lowest.	Year.
Arizona.	°	*Years*	°	°	°		°	
Fort Apache	66.1	22	63.0	− 3.1	71.4	1879	61.0	1884
Whipple Barracks	66.1	23	62.0	− 4.1	74.4	1879	59.9	1893
Arkansas.								
Keesees Ferry	71.0	13	70.1	− 0.9	76.4	1884	67.5	1883
California.								
Riverside	71.9	12	71.6	− 0.3	76.8	1883	65.5	1893
Colorado.								
Las Animas	65.5	12	64.1	− 1.4	67.6	1892	63.5	1883
Florida.								
Merritts Island	79.8	12	79.6	− 0.2	82.5	1882	78.0	1890
Georgia.								
Forsyth	76.4	20	77.7	+ 1.3	82.2	1884	72.8	1888
Idaho.								
Boise Barracks	61.1	20	59.2	− 1.9	68.0	1888	54.6	1884
Fort Sherman	56.5	11	56.4	− 0.1	58.6	1885, 91, 92	52.9	1881
Indiana.								
Lafayette	64.5	11	67.1	+ 2.6	69.7	1891	61.2	1883
Iowa.								
Cresco	59.0	21	62.9	+ 3.9	64.6	1891	54.3	1873
Kansas.								
Eureka Ranch	69.6	11	68.4	− 1.2	74.3	1884	67.1	1883
Independence	70.2	22	72.5	+ 2.3	74.9	1881	66.2	1889, 1890
Salina	70.3	11	.....	.....	77.3	1884	65.1	1890
Louisiana.								
Grand Coteau	77.3	11	77.1	− 0.2	81.6	1884	74.7	1890
Maine.								
Orono	56.8	23	59.2	+ 2.4	60.8	1891	52.3	1893
Maryland.								
Cumberland	62.5	23	68.8	+ 6.3	70.0	1881	59.3	1888
Michigan.								
Kalamazoo	62.3	18	64.9	+ 2.6	69.0	1881	55.2	1879
Missouri.								
Sedalia	70.0	10	69.4	− 0.6	75.9	1881	64.6	1890
Montana.								
Fort Custer	59.1	15	55.4	− 3.7	64.8	1892	54.0	1884
Nebraska.								
Fort Robinson	61.7	11	60.3	− 1.4	67.6	1891	56.1	1886
Genoa (near)	63.1	18	67.4	+ 4.3	67.4	1894	59.9	1883
Nevada.								
Carson City	60.5	17	56.8	− 3.7	65.1	1888	54.4	1893
New Hampshire.								
Hanover	55.9	23	60.3	+ 4.4	62.9	1881	53.0	1893
New Mexico.								
Fort Wingate	63.2	23	60.8	− 2.4	67.3	1879	58.2	1893
New York.								
Cooperstown	55.5	23	61.4	+ 5.9	66.7	1881	53.9	1871
Plattsburg Barracks	59.0	23	61.9	+ 2.9	65.3	1881	53.8	1888
North Carolina.								
Lenoir	65.4	22	69.4	+ 4.0	71.1	1884	55.2	1878
Oklahoma.								
Fort Reno	71.8	10	74.1	+ 2.3	78.1	1884	68.4	1889
Fort Sill	72.9	23	74.9	+ 2.0	77.6	1884	68.8	1882
Fort Supply	70.0	13	70.6	+ 0.6	72.4	1893	66.6	1890
Oregon.								
Bandon	54.6	10	57.3	+ 2.7	57.3	1894	51.2	1886
Pennsylvania.								
Dyberry	57.8	21	62.3	+ 4.5	66.9	1881	51.8	1871
Grampian	60.5	23	64.9	+ 4.4	72.0	1881	54.2	1871
Wellsboro	58.2	15	60.6	+ 2.4	73.8	1881	52.3	1883
South Carolina.								
Statesburg	72.5	13	74.8	+ 2.3	77.9	1881	69.9	1888
South Dakota.								
Fort Sully	62.6	23	65.0	+ 2.4	68.3	1891	57.3	1873
Texas.								
Austin	78.0	21	77.8	− 0.2	83.2	1884	70.3	1887
Silver Falls	73.3	8	72.0	− 1.3	75.9	1893	70.4	1890
Utah.								
Terrace	66.4	20	71.5	+ 5.1	78.5	1888	52.0	1884
Vermont.								
Strafford	59.5	21	59.1	− 0.4	64.4	1879	52.8	1893
Virginia.								
Dale Enterprise	66.9	11	66.7	− 0.2	72.9	1886	59.9	1890
Washington.								
Fort Townsend	57.1	19	55.8	− 1.3	63.5	1874	53.9	1884
Wisconsin.								
Madison	60.9	22	64.4	+ 3.5	67.0	1891	56.6	1883
Wyoming.								
Fort Washakie	57.0	11	53.4	− 3.6	59.9	1887	52.9	1889

TABLE X*b*.—*Precipitation data for selected voluntary stations, Sept.*, 1894.

State and station.	Normal for month.	Length of record.	Total, Sept., 1894.	Departure from the normal.	Extremes.			
					Greatest.		Least.	
					Amt.	Year.	Amt.	Year.
Arizona.	*Inches.*	*Years*	*Inches.*	*Inches.*	*Inches.*		*Inches*	
Fort Apache	1.57	18	1.32	− 0.25	5.41	1881	0.30	1880
Whipple Barracks	1.11	23	0.45	− 0.66	4.88	1887	0.00	1874
Arkansas.								
Keesees Ferry	4.26	13	3.11	− 1.15	12.08	1890	0.33	1891
California.								
Riverside	0.10	14	0.00	− 0.10	0.71	1890	0.00	*
Colorado.								
Las Animas	0.47	12	0.11	− 0.36	1.35	1883	0.00	1890
Florida.								
Merritts Island	7.90	16	15.77	+ 7.87	23.78	1878	2.88	1883
Georgia.								
Forsyth	3.43	20	1.96	− 1.47	8.69	1888	0.10	1886
Idaho.								
Boise Barracks	0.45	21	0.40	− 0.05	2.26	1893	T.	1886
Fort Sherman	1.14	10	2.30	+ 1.16	2.50	1893	0.08	1882
Indiana.								
Lafayette	2.31	12	6.63	+ 4.32	6.63	1894	0.30	1882
Iowa.								
Cresco	3.73	21	3.16	− 0.57	10.03	1881	0.82	1888
Kansas.								
Independence	3.43	22	8.18	+ 4.75	9.71	1884	0.27	1883
Salina	1.81	11	.....	.....	3.75	1891	0.50	1888
Louisiana.								
Grand Coteau	3.26	10	5.01	+ 1.75	10.58	1885	0.37	1888
Maine.								
Orono	3.55	23	3.40	− 0.15	6.97	1888	0.95	1887
Maryland.								
Cumberland	2.87	23	1.74	− 1.13	8.50	1882	0.40	1873
Michigan.								
Kalamazoo	3.23	18	1.64	− 1.59	6.28	1879	0.53	1882
Missouri.								
Sedalia	4.47	13	6.76	+ 2.29	10.54	1884	0.68	1891
Montana.								
Fort Custer	0.77	15	1.41	+ 0.64	1.72	1890	0.03	1879
Nebraska.								
Fort Robinson	0.46	10	1.16	+ 0.70	1.52	1891	0.00	1890
Genoa (near)	2.96	18	0.46	− 2.50	11.34	1887	0.29	1888
Nevada.								
Carson City	0.39	17	0.05	− 0.25	1.01	1890	0.00	†
New Hampshire.								
Hanover	2.88	23	3.56	+ 0.68	6.46	1882	0.27	1884
New Mexico.								
Fort Wingate	1.24	22	1.13	− 0.11	3.60	1873	0.04	1892
New York.								
Cooperstown	3.37	23	5.55	+ 2.18	7.24	1890	1.17	1871
Plattsburg Barracks	2.58	23	2.79	+ 0.21	4.72	1882	0.51	1887
North Carolina.								
Lenoir	4.44	23	3.66	− 0.78	9.00	1893	0.40	1871
Oklahoma.								
Fort Reno	2.78	11	3.16	+ 0.38	5.13	1887	1.17	1891, 1893
Fort Sill	2.71	23	3.45	+ 0.74	5.60	1874	0.28	1879
Fort Supply	2.07	13	2.29	+ 0.22	4.23	1873	0.20	1886
Oregon.								
Bandon	2.09	16	6.23	+ 4.14	6.23	1894	0.00	1890
Pennsylvania.								
Dyberry	2.84	22	4.40	+ 1.56	6.49	1888	1.04	1885
Grampian	3.25	17	7.08	+ 3.83	7.08	1894	1.14	1885
Wellsboro	3.21	15	5.85	+ 2.64	8.40	1880	1.18	1892
South Carolina.								
Statesburg	3.44	13	6.70	+ 3.26	6.70	1894	0.75	1887
South Dakota.								
Fort Sully	0.89	23	0.75	− 0.14	4.09	1876	T.	1871, 1893
Texas.								
Austin	4.40	21	0.70	− 3.70	12.33	1886	0.00	1872
Silver Falls	2.22	8	0.06	− 2.16	5.58	1886	0.06	1894
Utah.								
Terrace	0.25	21	1.50	+ 1.25	1.61	1884	0.00	*
Vermont.								
Strafford	3.38	21	3.70	+ 0.32	6.30	1880	0.70	1884
Virginia.								
Dale Enterprise	4.20	14	5.96	+ 1.76	12.24	1882	1.04	1885
Washington.								
Fort Townsend	1.22	19	1.81	+ 0.59	5.79	1874	0.15	1890
West Virginia.								
Parkersburg	3.40	9	.....	.....	8.41	1890	1.72	1891
Wisconsin.								
Madison	3.17	22	4.21	+ 1.04	8.17	1881	0.38	1891
Wyoming.								
Fort Washakie	0.31	12	2.22	+ 1.91	2.22	1894	0.00	1892

*Generally. †Frequently.

TABLE XI.—*Thunderstorms and auroras, September, 1894.*

States.	No. of stations.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	Total.
Alabama	52	T.	....	....	....	....	....	....	....	....	....	2	2	1	2	1	....	1	5	....	....	....	....	....	....	....	....	....	....	....	....	....	....	14 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Arizona	46	T.	4	4	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	2	....	....	....	2	....	....	1	....	....	....	....	15 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Arkansas	48	T.	2	2	4	5	1	....	....	1	5	4	1	....	....	1	2	....	3	....	....	1	....	1	1	4	....	....	....	....	....	....	....	38 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
California	316	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Colorado	74	T.	2	4	1	4	1	3	8	7	3	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	7	2	....	....	44 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Connecticut	23	T.	....	....	....	....	....	....	....	3	....	9	....	....	....	....	....	6	3	....	....	1	....	....	....	....	....	....	....	....	....	....	....	22 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1 A.
Delaware	5	T.	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	2 A.
District of Columbia	4	T.	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Florida	34	T.	3	4	10	7	7	1	2	4	3	5	6	4	3	9	8	8	9	9	4	2	2	4	....	3	....	....	....	....	....	....	....	117 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Georgia	62	T.	1	....	....	....	....	....	1	....	1	....	2	3	....	2	....	2	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	15 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Idaho	22	T.	....	1	....	1	1	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	1 A.
Illinois	56	T.	....	10	12	8	3	10	6	11	8	1	....	4	....	6	6	....	....	....	1	2	7	12	5	....	....	....	....	....	1	....	113 T.
		A.	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	2	....	....	....	....	4 A.
Indiana	45	T.	....	1	....	2	2	....	....	3	3	2	....	1	1	....	2	....	2	....	....	....	2	1	....	....	....	....	....	....	....	....	....	22 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2 A.
Indian Territory	7	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	2 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Iowa	80	T.	....	6	6	3	....	14	13	9	10	....	....	....	....	15	1	1	1	....	1	17	12	11	....	....	....	....	....	1	....	....	121 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	2	5	....	....	....	1	....	....	....	8	....	....	....	....	17 A.
Kansas	78	T.	10	11	9	7	11	4	4	4	8	2	....	....	....	7	1	9	1	....	4	13	5	2	....	....	....	....	....	3	2	....	....	119 T.
		A.	....	....	....	....	....	....	....	....	1	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2 A.
Kentucky	36	T.	....	4	1	1	....	....	....	....	1	2	....	1	....	....	2	5	1	6	....	....	....	....	....	....	....	....	....	....	....	....	....	24 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Louisiana	50	T.	9	5	1	....	1	2	6	6	6	8	8	10	9	7	3	5	4	1	....	....	....	....	....	....	....	....	....	....	....	....	....	91 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Maine	18	T.	....	....	....	....	6	....	....	....	....	8	....	....	....	....	....	....	....	....	1	1	....	....	....	....	....	....	....	....	....	....	....	16 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6 A.
Maryland	32	T.	....	....	....	1	2	3	3	5	6	1	1	....	....	....	....	7	6	4	....	....	1	....	....	....	....	2	3	....	....	....	....	39 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Massachusetts	82	T.	....	....	....	....	....	....	....	....	1	14	....	....	....	1	6	6	1	....	....	2	....	....	....	....	....	....	....	....	....	....	....	31 T.
		A.	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	3	....	....	....	....	5 A.
Michigan	81	T.	1	1	3	5	2	4	9	10	12	6	1	1	1	2	3	2	....	....	....	1	10	2	....	....	....	1	....	....	....	....	....	77 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	6	....	....	....	....	8 A.
Minnesota	64	T.	1	....	5	1	9	3	3	1	....	....	1	....	....	7	....	....	....	1	....	6	15	3	....	....	....	1	1	8	7	....	....	73 T.
		A.	....	....	....	2	1	....	....	....	....	2	1	....	....	8	1	....	....	7	4	....	1	....	....	1	....	2	9	2	....	2	....	43 A.
Mississippi	52	T.	4	2	1	....	....	....	1	1	2	2	4	3	2	2	1	3	3	....	....	....	....	....	1	....	....	....	....	....	....	....	....	32 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Missouri	98	T.	7	15	27	9	7	15	5	11	14	5	....	2	1	19	7	3	7	2	....	11	17	16	9	....	....	....	....	3	....	....	212 T.
		A.	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1 A.
Montana	28	T.	2	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	5 T.
		A.	....	....	....	2	....	....	....	....	....	2	1	....	....	....	1	....	....	....	....	....	....	....	....	1	....	....	1	2	1	....	....	11 A.
Nebraska	76	T.	3	3	1	....	3	2	9	2	2	....	....	....	....	2	....	4	....	....	....	1	2	2	....	....	....	....	1	6	4	....	....	46 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	4	2	....	....	....	....	....	....	3	2	....	....	....	13 A.
Nevada	37	T.	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1	....	4 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
New Hampshire	27	T.	....	....	....	....	3	....	....	1	....	13	....	....	....	....	1	1	2	1	1	8	....	....	....	....	....	....	....	....	....	....	....	31 T.
		A.	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	1	5	....	....	....	....	9 A.
New Jersey	60	T.	....	....	....	....	....	2	....	27	8	21	....	1	....	1	....	14	3	11	....	....	....	....	....	....	....	....	....	....	....	....	....	88 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1 A.
New Mexico	29	T.	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	1	....	....	4 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
New York	84	T.	....	1	....	1	5	....	....	11	....	19	....	....	2	3	13	6	1	....	....	2	....	....	....	....	....	....	....	....	....	....	....	64 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	5	1	....	....	....	....	....	1	1	....	....	....	....	4	....	....	....	....	12 A.
North Carolina	54	T.	9	1	2	2	1	....	....	....	....	2	7	1	....	....	....	....	8	2	....	....	....	1	....	5	....	....	1	....	....	....	....	43 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
North Dakota	33	T.	2	....	3	....	....	1	....	....	1	....	....	....	1	2	....	....	....	....	....	....	....	....	....	....	....	....	1	2	....	....	....	13 T.
		A.	....	....	....	4	....	....	....	....	....	4	....	....	....	12	....	....	....	3	10	....	1	4	2	3	2	....	5	....	....	1	....	51 A.
Ohio	131	T.	....	....	....	10	5	1	13	17	8	6	....	1	6	11	15	5	2	5	....	1	2	16	12	....	....	....	2	....	....	....	....	136 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	7	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	9 A.
Oklahoma	16	T.	....	....	....	2	....	....	....	....	2	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Oregon	65	T.	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	3 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Pennsylvania	85	T.	....	....	....	....	3	2	8	33	18	21	....	1	5	6	6	23	2	12	3	....	....	....	....	....	....	....	....	....	1	....	....	144 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1 A.
Rhode Island	8	T.	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	1	....	....	1	....	....	5 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
South Carolina	45	T.	1	....	....	1	2	....	2	1	1	....	6	2	....	....	....	7	7	4	....	....	....	....	....	3	1	....	....	1	2	....	....	41 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
South Dakota	45	T.	....	....	....	....	5	....	4	....	....	....	....	1	2	....	....	....	1	....	1	1	..	....	....	....	....	1	1	2	1	....	....	20 T.
		A.	....	....	....	....	....	....	....	....	....	1	....	....	4	....	....	....	....	....	....	....	1	....	....	....	....	1	2	....	1	....	....	10 A.
Tennessee	39	T.	....	2	1	....	....	....	1	....	3	2	....	3	1	....	....	3	6	1	....	....	....	....	1	....	....	....	....	1	....	....	....	25 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Texas	81	T.	....	....	....	1	....	....	2	3	7	....	....	....	....	1	2	2	2	2	2	3	1	....	7	2	1	....	....	1	2	....	....	41 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Utah	39	T.	....	....	....	....	1	2	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Vermont	13	T.	....	....	....	....	4	....	....	1	....	6	....	1	....	....	....	1	1	....	....	3	....	....	1	....	....	....	....	....	....	....	....	18 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	3 A.
Virginia	37	T.	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	2	5	....	1	....	....	....	....	....	1	....	....	....	....	....	....	....	11 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Washington	47	T.	....	....	....	....	2	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	2	3	1	....	....	....	....	9 T.
		A.	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	1	....	....	....	....	....	....	....	....	....	4 A.
West Virginia	40	T.	....	....	....	....	....	1	1	1	1	1	....	....	....	1	....	7	2	4	....	....	....	1	....	....	....	....	....	....	....	....	....	20 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Wisconsin	62	T.	....	....	10	2	2	6	6	3	4	....	....	....	....	13	5	1	....	....	1	3	11	11	1	....	....	1	....	....	....	....	....	80 T.
		A.	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....	....	....	1	2	1	....	....	2	....	1	1	16	....	....	1	....	27 A.
Wyoming	13	T.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1 T.
		A.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	0 A.
Sums	2,959	T.	61	77	98	73	91	76	106	181	134	171	39	41	35	121	83	138	97	67	22	80	80	91	41	20	5	10	7	29	25	11	....	2110 T.
		A.	0	0	2	10	1	0	1	1	0	10	3	0	0	43	4	0	0	13	27	3	4	9	6	6	6	7	73	6	2	4	....	243 A.

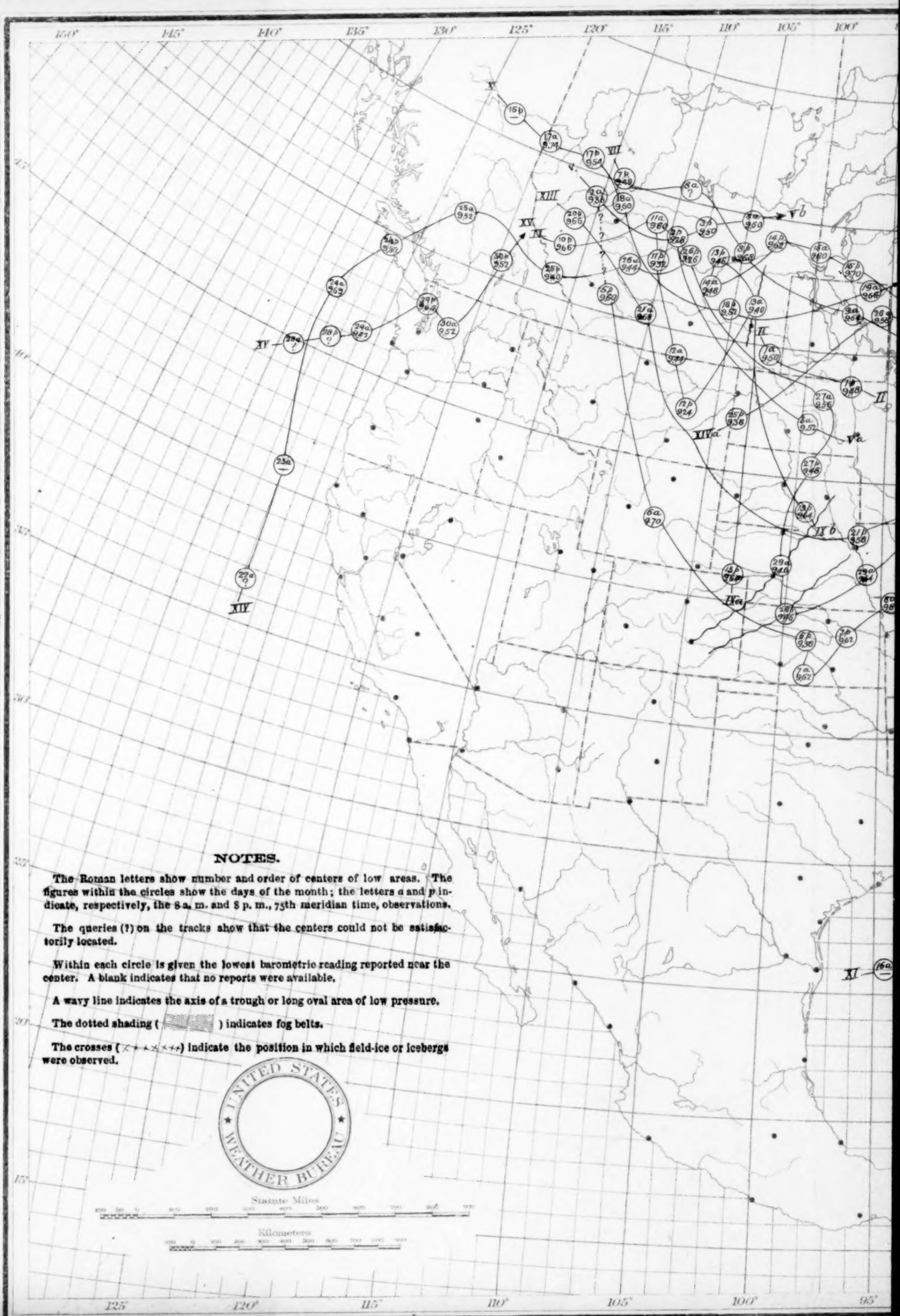
TABLE XII.—*Climatological data from the monthly reports of the State Weather Services, September, 1894.*

State.	Temperature.										Precipitation.					Director.
	Mean departure.	Maximum.	Date.	Station.	Minimum.	Date.	Station.	Monthly ranges. Greatest.	Station.	Least.	Station.	Mean departure.	Maximum. Amount.	Station.	Minimum. Amount.	Station.	
	°	°			°			°		°		*Inches.*	*Inches*		*Inches*		
Alabama	+0.1	96	14	Tuscumbia	45	26	Newberg	47	Tuscumbia	22	Citronelle	−0.22	6.18	Healing Springs	0.75	Union	F. P. Chaffee.
Alaska																	Not yet organized.
Arizona	0.0	109	*	Yuma†	25	28	Keams Canyon	71	Dudleyville	32	Walnut Ranch	−0.55	2.86	Show Low	T.	Ariz. Can. Co. Dam†	W. R. Burrows.
Arkansas	+0.6	100	*	Helena†	38	*	Corning	55	Corning	38	Winslow	+0.47	8.94	Fayetteville	0.40	Blanchard Springs.	F. H. Clarke.
California	−0.1	116	22	Volcano Springs	22	28	Greenville	70	Greenville	29	Eureka	+0.65	4.00	Delta	0.00	Ager†	J. A. Barwick.
Colorado	−0.8	97	26	Vernon	13	16	Gunnison	69	Steamboat Spring	40	Hugo	+0.32	5.20	Springfield	0.00	Siebert	F. H. Brandenburg.
Connecticut	+2.3	90	10	Canton	34	26	N. Grosvenor Dale.	54	N. Grosvenor Dale.	39	New London	+0.96	5.86	Bridgeport	1.26	N. Grosvenor Dale.	J. Warren Smith.
Delaware		94	10	Seaford	42	26	Newark	48	Newark†	41	Dover		8.89	Newark	2.58	Seaford	C. P. Cronk.
District of Columbia																	See Maryland.
Florida	−0.8	100	9	Kissimmee	59	26	Gainesville†	36	Kissimee	18	Key West	+6.11	19.91	Gainesville	4.11	Pensacola	E. R. Demain.
Georgia	+1.0	101	9	Brag	46	20	Clayton	46	Brag	30	Griffin†	−0.42	11.65	Darien	1.16	Ramsey	Park Morrill.
Idaho		93	*	Payette	15	29	Chesterfield	68	Chesterfield	50	Grangeville		3.60	Murray	0.31	Payette	J. H. Smith.
Illinois	+2.2	98	1	Greenville	31	25	Winnebago	62	Oswego†	40	Herrins Prairie	+2.00	15.73	Riley	1.60	Warsaw	John Craig.
Indiana	+3.0	98	*	Angola†	30	*	Hawpatch†	68	Hawpatch	43	New Albany	+0.06	8.70	Valparaiso	0.70	Jasper	Prof. H. A. Huston.
Indian Territory																	See Oklahoma.
Iowa	+3.0	100	1	Mocar	26	16	Rock Rapids	70	Elkader	48	Fort Madison	−0.13	7.43	Keosauqua	0.59	Rock Rapids	J. R. Sage.
Kansas	+0.3	107	3	Englewood	26	30	Hays City	77	Englewood	47	Winona	+1.37	9.72	Wichita	T.	Winona	T. B. Jennings.
Kentucky	+2.1	98	*	Fords Ferry†	37	*	Shelbyville†	61	Shelbyville	30	Cromwell	−0.26	4.89	Carrollton	1.23	Cromwell	Frank Burke.
Louisiana	+1.2	98	*	Minden†	45	*	Calhoun†	50	Cheneyville†	20	Port Eads	+0.53	10.45	Cameron	0.46	Natchitoches	R. E. Kerkam.
Maine	−1.2	90	7	Orono	25	27	Farmington	63	Farmington†	38	Eastport	−0.19	6.52	Easton	1.46	Eastport	J. Warren Smith.
Maryland	+2.3	99	10	Charlotte Hall	29	25	Sunnyside	59	Sunnyside	40	Pocomoke City	−0.59	7.87	Bachmans Valley	0.96	La Plata	C. P. Cronk.
Massachusetts	+2.6	92	10	Concord†	31	26	Framingham†	60	Lake Cochituate	28	Nantucket	−0.12	7.09	Winchendon	1.35	Clinton	J. Warren Smith.
Michigan	+1.9	99	2	Berlin	25	25	Cheboygan	70	Lathrop	41	Hart	+0.42	7.14	Alma	1.35	Birmingham	E. A. Evans.
Minnesota	+3.9	100	1	St. Vincent†	12	25	Pokegama Falls	77	Beardsley	55	New Ulm	−1.26	5.14	Caledonia	0.54	Sandy Lake Dam	E. A. Beals.
Mississippi	−0.9	98	26	Waynesboro	43	26	French Camps	50	Mayersville	27	Moss Point	−0.50	6.17	Kosciusko	0.67	Corinth	R. J. Hyatt.
Missouri	+0.7	101	8	Darksville	34	*	Elmira†	65	Elmira	41	Ironton	+1.78	9.21	Lamar	1.90	Big Piney	A. E. Hackett.
Montana	−4.0	98	12	Glendive	16	29	Kipp	78	Mingusville	42	Bozeman	+0.39	2.73	Virginia City	0.22	Glasgow	J. M. Sherier.
Nebraska	−1.4	110	6	Chadron	25	24	Fort Robinson	69	Hebron	42	Burwell	−0.75	6.42	Nebraska City	0.00	Wallace	Prof. G. D. Swezey.
Nevada	−3.0	96	*	Paradise Valley†	10	29	Stofiel	76	Sunnyside†	45	Battle Mountain	−0.19	1.65	Ely	0.00	Belleville†	Prof. C. W. Friend.
New Hampshire	+1.6	92	5	Grafton	23	27	West Milan	64	North Conway	46	Dublin	−0.17	5.15	Dublin	1.94	Lancaster	J. Warren Smith.
New Jersey	+3.8	97	10	Millville†	31	26	Charlotteburg	58	Belvidere	30	Atlantic City	+3.57	11.65	Woodbine	3.96	Atlantic City	E. W. McGann.
New Mexico	0.0	94	22	Roswell	20	15	Monero	63	Bloomfield	42	Galisteo		2.50	Ciruela	0.10	Fort Bayard†	H. B. Hersey.
New York	+3.7	98	9	Middletown	23	26	Friendship†	68	Varysburg	36	Setauket	+1.64	10.11	Warwick	2.63	Rochester	Prof. E. A. Fuertes.
North Carolina	+2.0	100	9	Auburn	39	21	Bakersville	55	Saxon	18	Hatteras	+0.12	7.93	Chapel Hill	1.07	Mount Airy	Dr. H. B. Battle.
North Dakota	+3.0	104	1	Gallatin	18	*	Berlin†	81	Berlin†	56	Larimore	−0.25	5.47	Woodbridge	0.07	Ellendale	B. H. Bronson.
Ohio	+3.3	103	7	Warsaw	27	26	Levering	72	Warsaw	45	New Bremen	+0.37	7.14	Warren	1.27	Athens	L. N. Bonham.
Oklahoma	+1.0	109	7	Anadarko	35	30	Pond Creek	67	Pond Creek	46	Lehigh	−0.50	6.85	Tahlequah	0.60	Enfaula	J. I. Widmeyer.
Oregon	−1.5	98	*	Grand Pass†	10	14	Burns	75	Burns	25	Bandon	+0.60	11.48	Nehalem	0.11	Umatilla	Hon. H. Hayes.
Pennsylvania	+4.5	98	7	Uniontown	24	26	Shinglehouse	68	Shinglehouse	44	Cassandra†	+2.58	12.36	Clarion	2.82	Chambersburg	W. P. Tatham.
Rhode Island	+2.8	88	9	Pawtucket	39	26	Kingston	46	Kingston†	20	Block Island	−0.44	3.96	Kingston	2.03	Block Island	J. Warren Smith.
South Carolina	+1.4	100	11	Shaws Fork	52	21	Greenville	44	Spartanburg†	29	Charleston	+1.71	10.94	Charleston	2.34	Central	J. W. Bauer.
South Dakota	+3.6	108	26	Oelrichs	18	24	Brookings	82	Fort Sully	56	Spearfish	−0.36	4.30	Castlewood	0.10	Highmore	S. W. Glenn.
Tennessee	+2.2	96	*	Arlington†	36	27	Brownsville	58	Brownsville	36	Chattanooga	−1.29	4.60	Palmetto	0.33	Clinton	J. B. Marbury.
Texas	+0.6	109	6	Midland	31	30	Hartley	63	Roby	10	Beaumont	−0.58	10.04	Palestine	0.06	Silver Falls	D. D. Bryan.
Utah	−3.0	102	4	Glendale	13	28	Loa	70	Loa	48	Salt Lake City		2.87	Levan†	0.04	St. George	G. N. Salisbury.
Vermont	+0.1	88	9	Brattleboro	22	26	Jacksonville	64	Jacksonville	49	Burlington†	+0.33	6.13	Vernon	1.90	Cornwall	J. Warren Smith.
Virginia		101	9	Richmond	36	25	Hot Springs	54	Avon†	31	Hampton		8.15	Petersburg	0.90	Wytheville	Dr. E. A. Craighill.
Washington	−2.5	93	10	Chehalis†	26	23	Hunters†	65	Wenatchee Lake	20	Tatoosh Island	+0.88	13.84	Neah Bay	T.	Fort Simcoe	H. F. Alciatore.
West Virginia		98	*	Creston†	31	25	Davis	62	Creston†	48	Ella†		4.75	Madison	1.25	New Martinsville	H. W. Richardson.
Wisconsin	+2.0	99	1	Prairie du Chien	15	25	Meadow Valley	78	Meadow Valley	52	Port Washington	+1.12	9.03	Beloit	1.52	Lincoln	S. E. Emery.
Wyoming	−5.0	88	*	Lusk†	16	29	Labarge	63	Sheridan	38	Fort Yellowstone	+0.63	2.78	Arland	0.57	Lusk	E. M. Ravenscraft.

*Two or more days.

† At other points in the State.

Chart I. Tracks of Cente



NOTES.

The Roman letters show number and order of centers of low areas. The figures within the circles show the days of the month; the letters *a* and *p* indicate, respectively, the 8 a. m. and 8 p. m., 75th meridian time, observations.

The queries (?) on the tracks show that the centers could not be satisfactorily located.

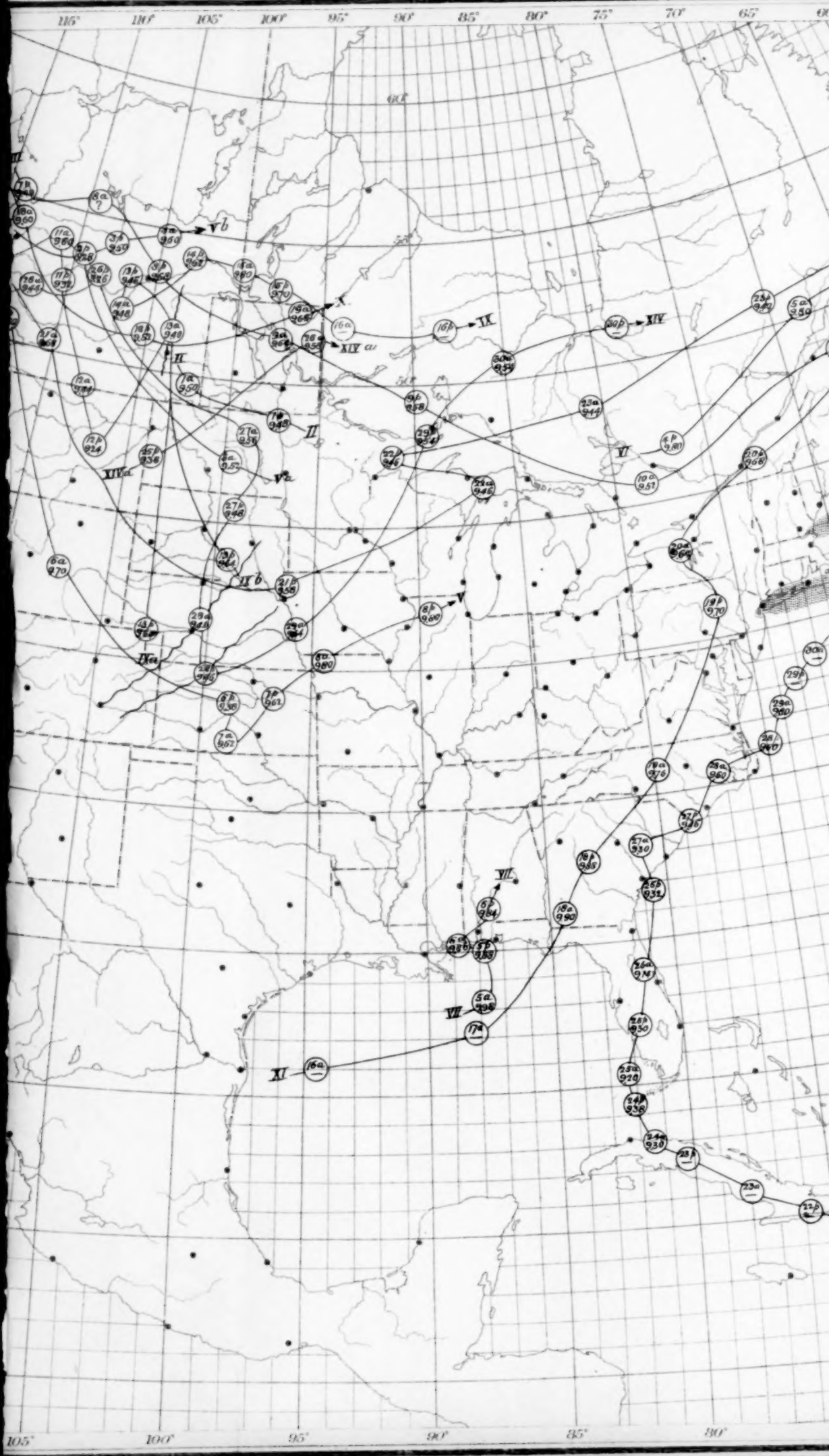
Within each circle is given the lowest barometric reading reported near the center. A blank indicates that no reports were available.

A wavy line indicates the axis of a trough or long oval area of low pressure.

The dotted shading ( ) indicates fog belts.

The crosses ( ) indicate the position in which field-ice or icebergs were observed.

Chart I. Tracks of Centers of Low Areas. September, 1894.



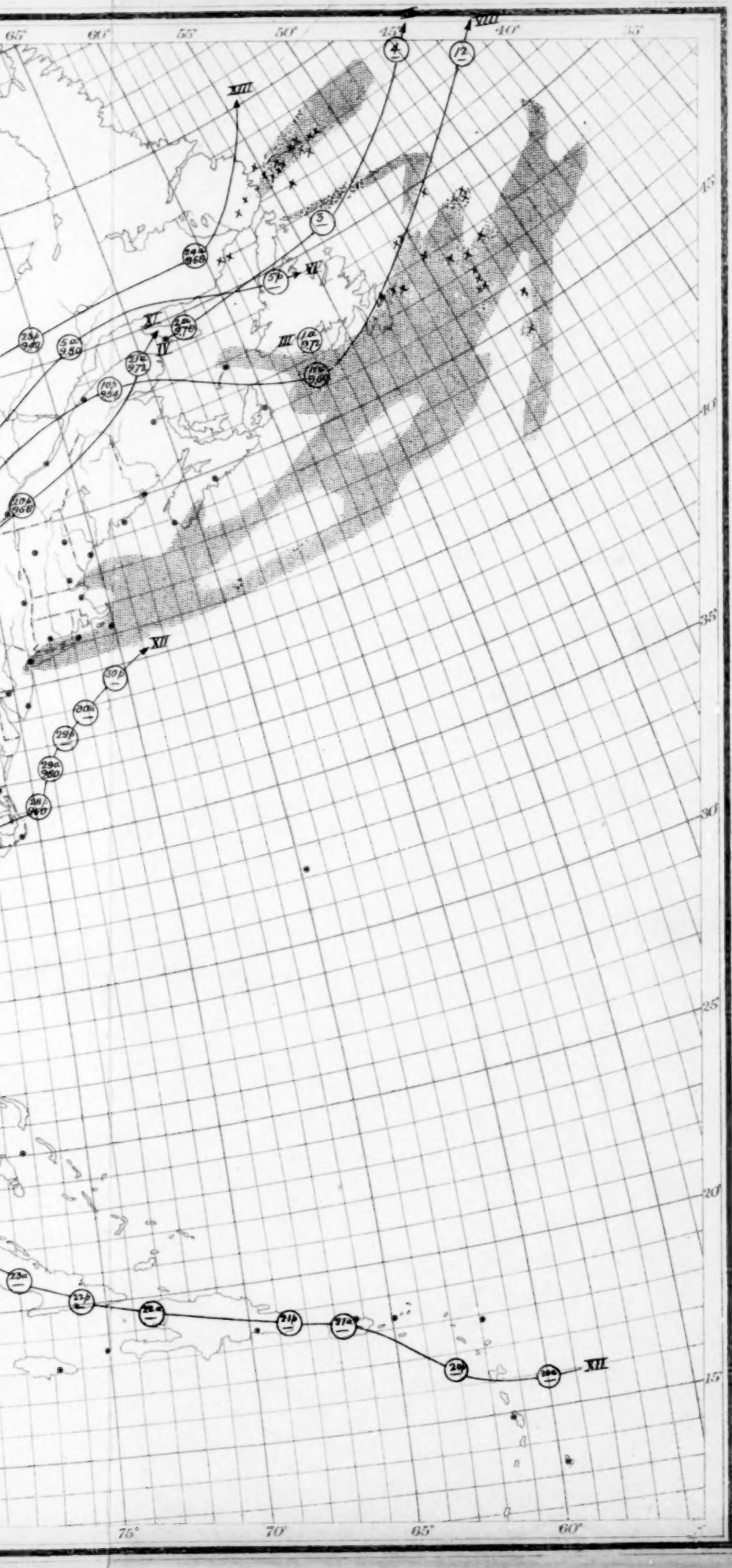

65°
60°
55°
50°
45°
40°
35°
45
40
35
30
25
20
15
75°
70°
65°
60°
XIII
VIII
XII
VI
V
IV
III
XII

Chart II. Isobars, Isotherms, and Resultant Winds. September, 1894.

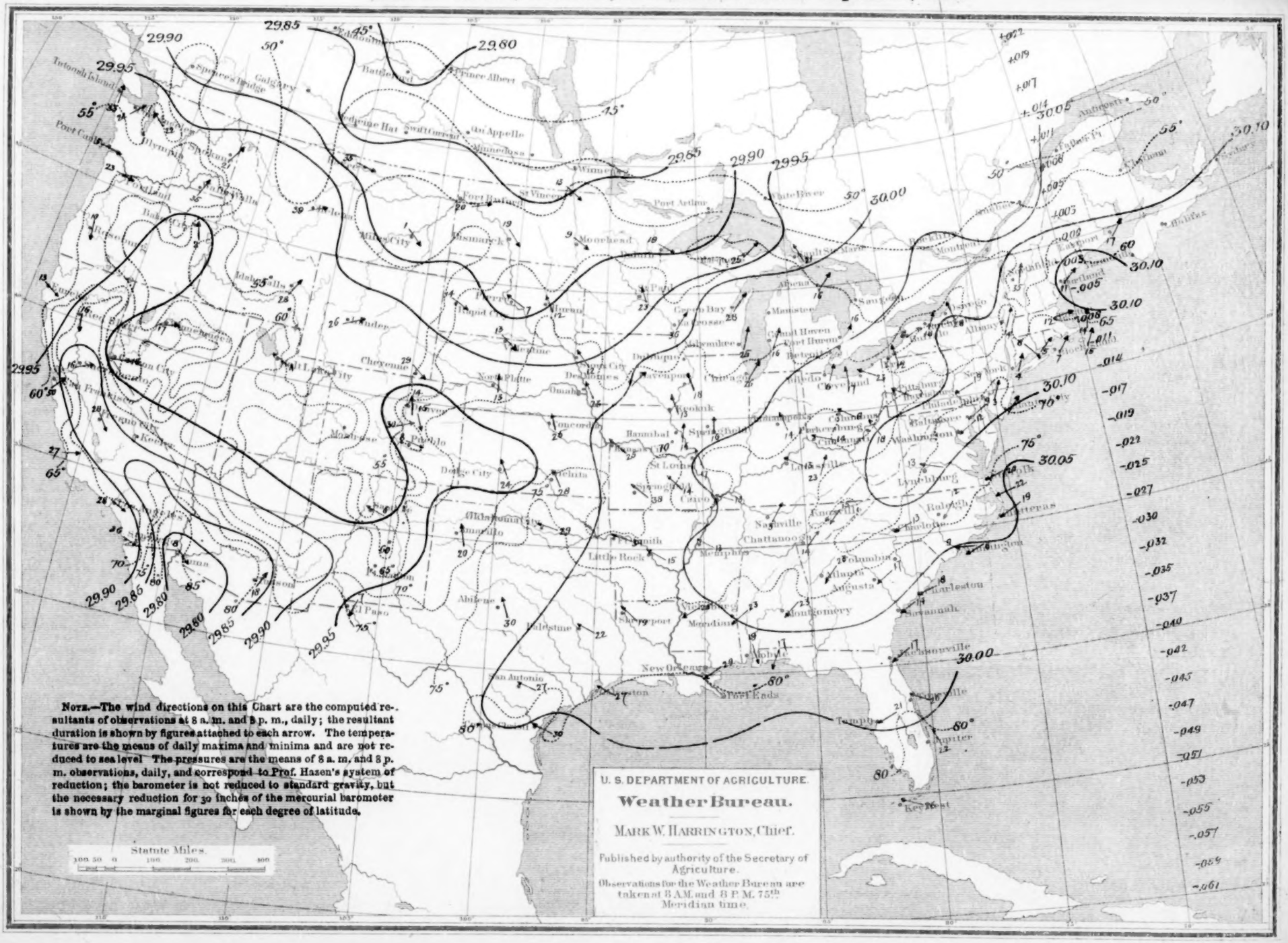

29.90
29.85
29.80
29.95
30.00
30.05
30.10
Nora.—The wind directions on this Chart are the computed resultants of observations at 8 a. m. and 8 p. m., daily; the resultant duration is shown by figures attached to each arrow. The temperatures are the means of daily maxima and minima and are not reduced to sea level. The pressures are the means of 8 a. m. and 8 p. m. observations, daily, and correspond to Prof. Hazen's system of reduction; the barometer is not reduced to standard gravity, but the necessary reduction for 30 inches of the mercurial barometer is shown by the marginal figures for each degree of latitude.
Statute Miles.
100 50 0 100 200 300 400
U. S. DEPARTMENT OF AGRICULTURE.
Weather Bureau.
MARK W. HARRINGTON, Chief.
Published by authority of the Secretary of Agriculture.
Observations for the Weather Bureau are taken at 8 A.M. and 8 P.M. 75th Meridian time.

Chart III. Total Precipitation. September, 1894.

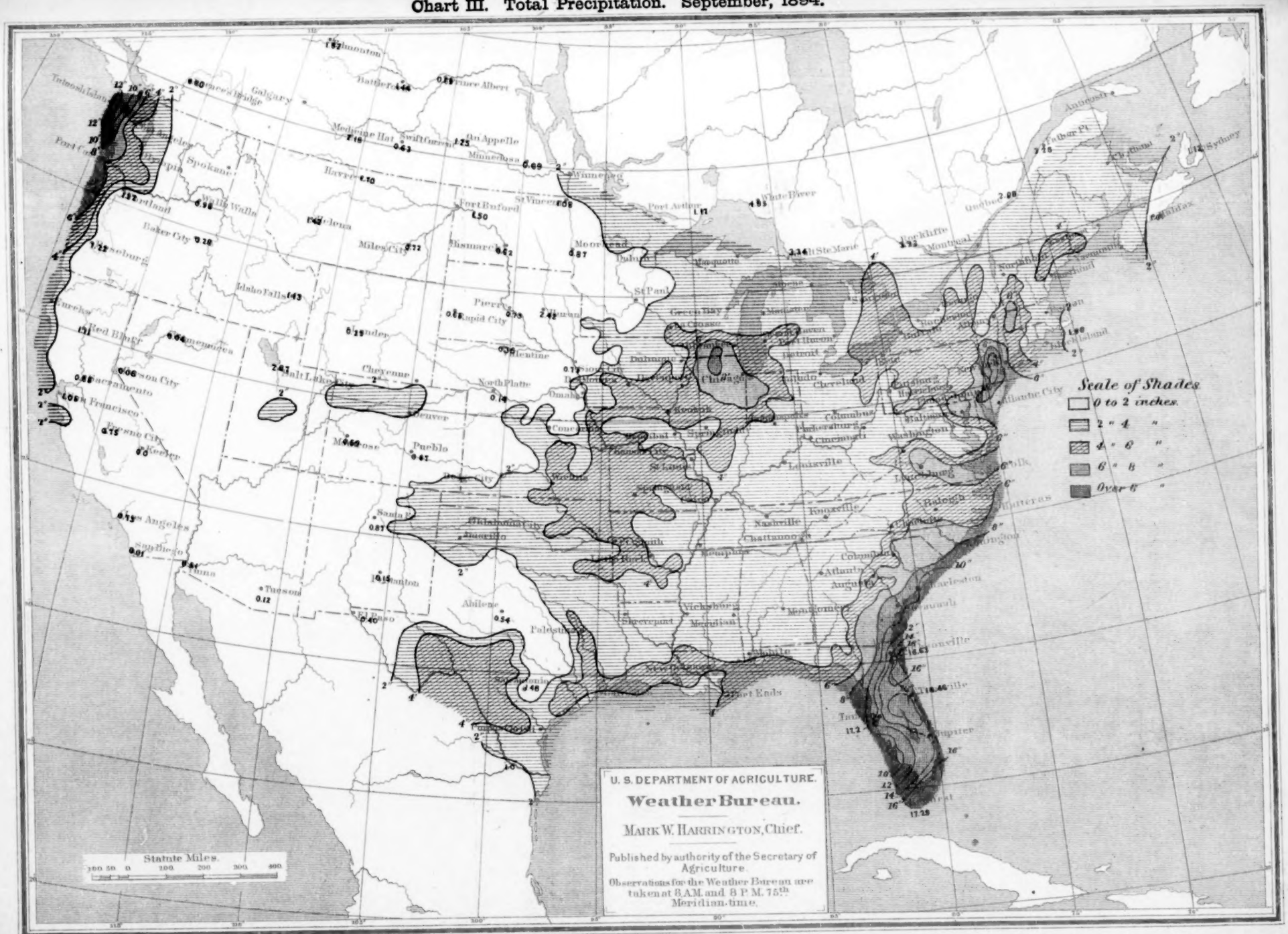

Scale of Shades.
0 to 2 inches.
2 " 4 "
4 " 6 "
6 " 8 "
Over 6 "
Statute Miles.
100 50 0 100 200 300 400
U. S. DEPARTMENT OF AGRICULTURE.
Weather Bureau.
MARK W. HARRINGTON, Chief.
Published by authority of the Secretary of Agriculture.
Observations for the Weather Bureau are taken at 8 A.M. and 8 P.M. 75th Meridian time.

Chart IV. Tracks of Centers of High Areas. September, 1894.

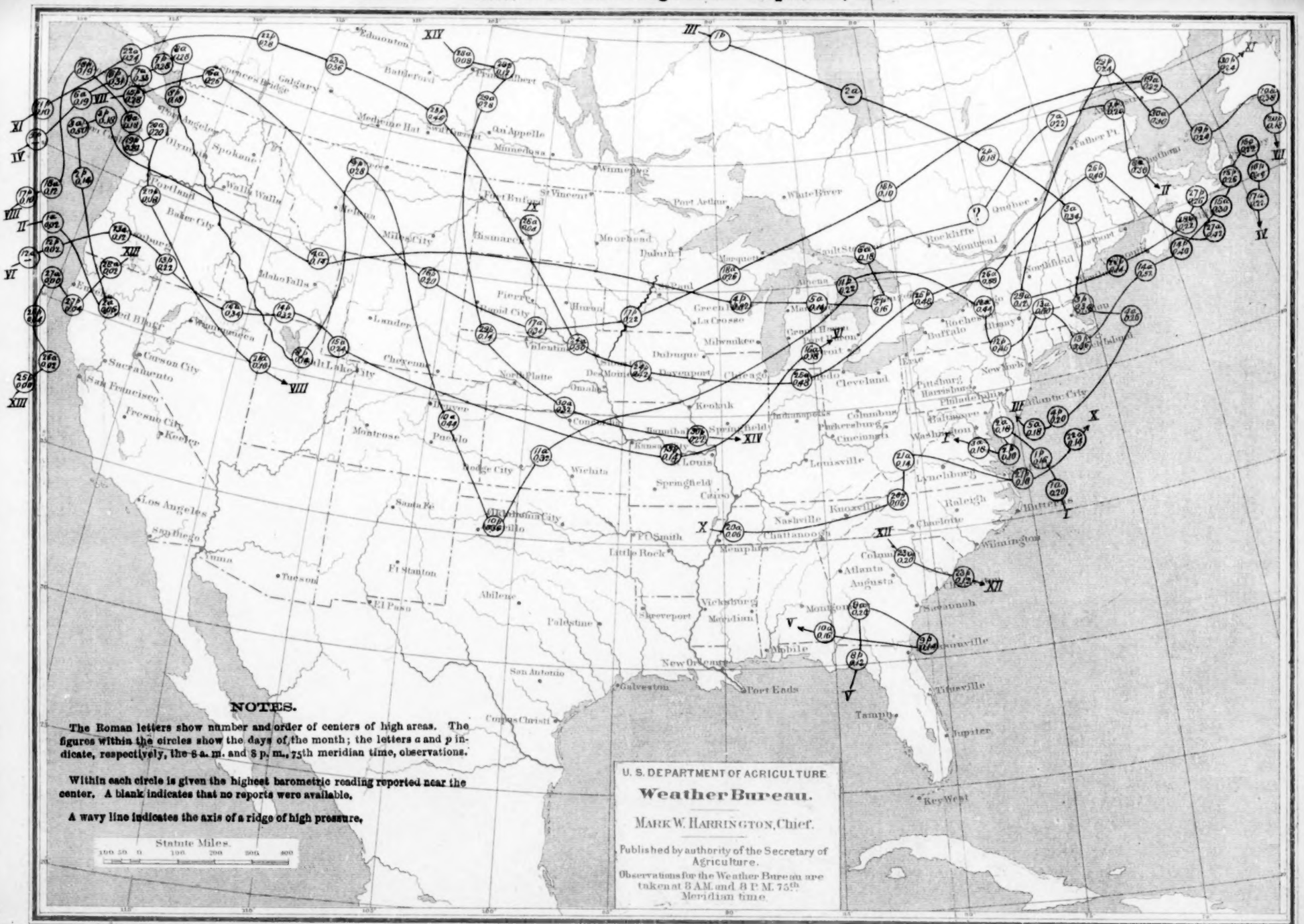

NOTES.
The Roman letters show number and order of centers of high areas. The figures within the circles show the days of the month; the letters a and p indicate, respectively, the 8 a. m. and 8 p. m., 75th meridian time, observations.
Within each circle is given the highest barometric reading reported near the center. A blank indicates that no reports were available.
A wavy line indicates the axis of a ridge of high pressure.
Statute Miles.
100 50 0 100 200 300 400
U. S. DEPARTMENT OF AGRICULTURE
Weather Bureau.
MARK W. HARRINGTON, Chief.
Published by authority of the Secretary of Agriculture.
Observations for the Weather Bureau are taken at 8 A.M. and 8 P.M. 75th Meridian time.

Chart V. Total Annual Snowfall

Chart V. Total Annual Snowfall.

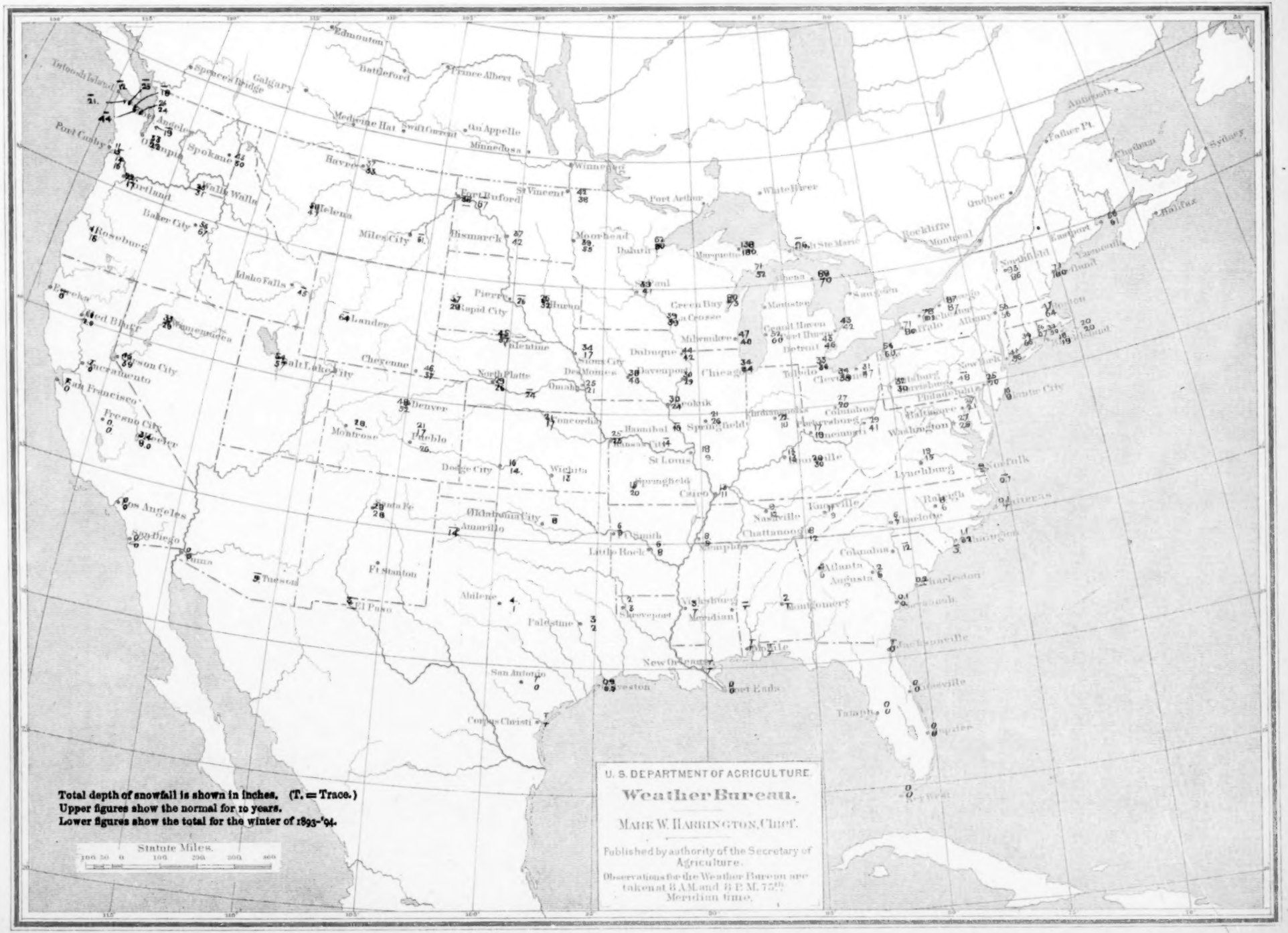
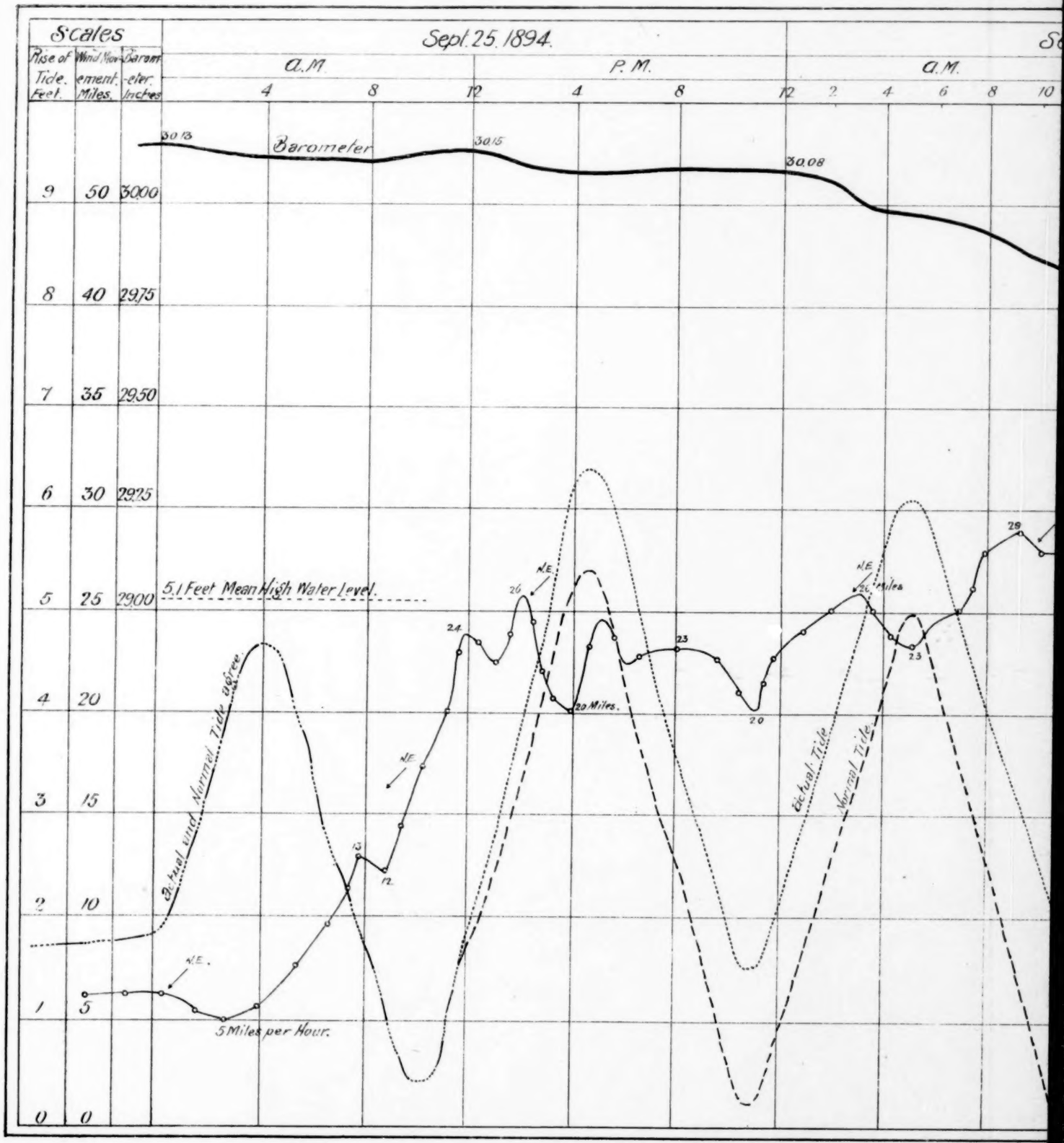

Total depth of snowfall is shown in inches. (T. = Trace.)
Upper figures show the normal for 10 years.
Lower figures show the total for the winter of 1893-'94.
Statute Miles.
100 50 0 100 200 300 400
U. S. DEPARTMENT OF AGRICULTURE.
Weather Bureau.
MARK W. HARRINGTON, Chief.
Published by authority of the Secretary of Agriculture.
Observations for the Weather Bureau are taken at 8 A.M. and 8 P.M. 75th Meridian time.

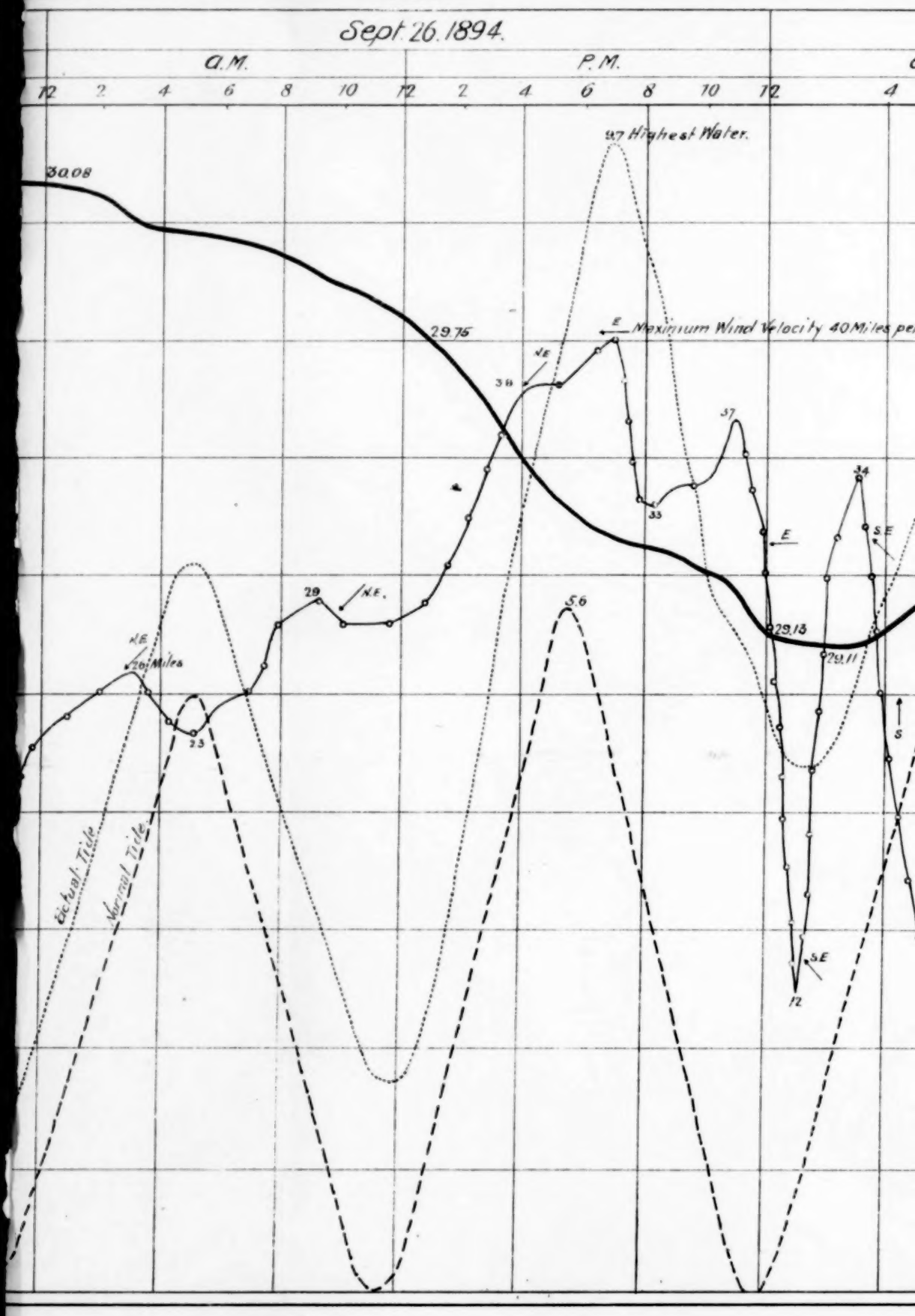
Chart VI. STUDIES IN FLOODS AN

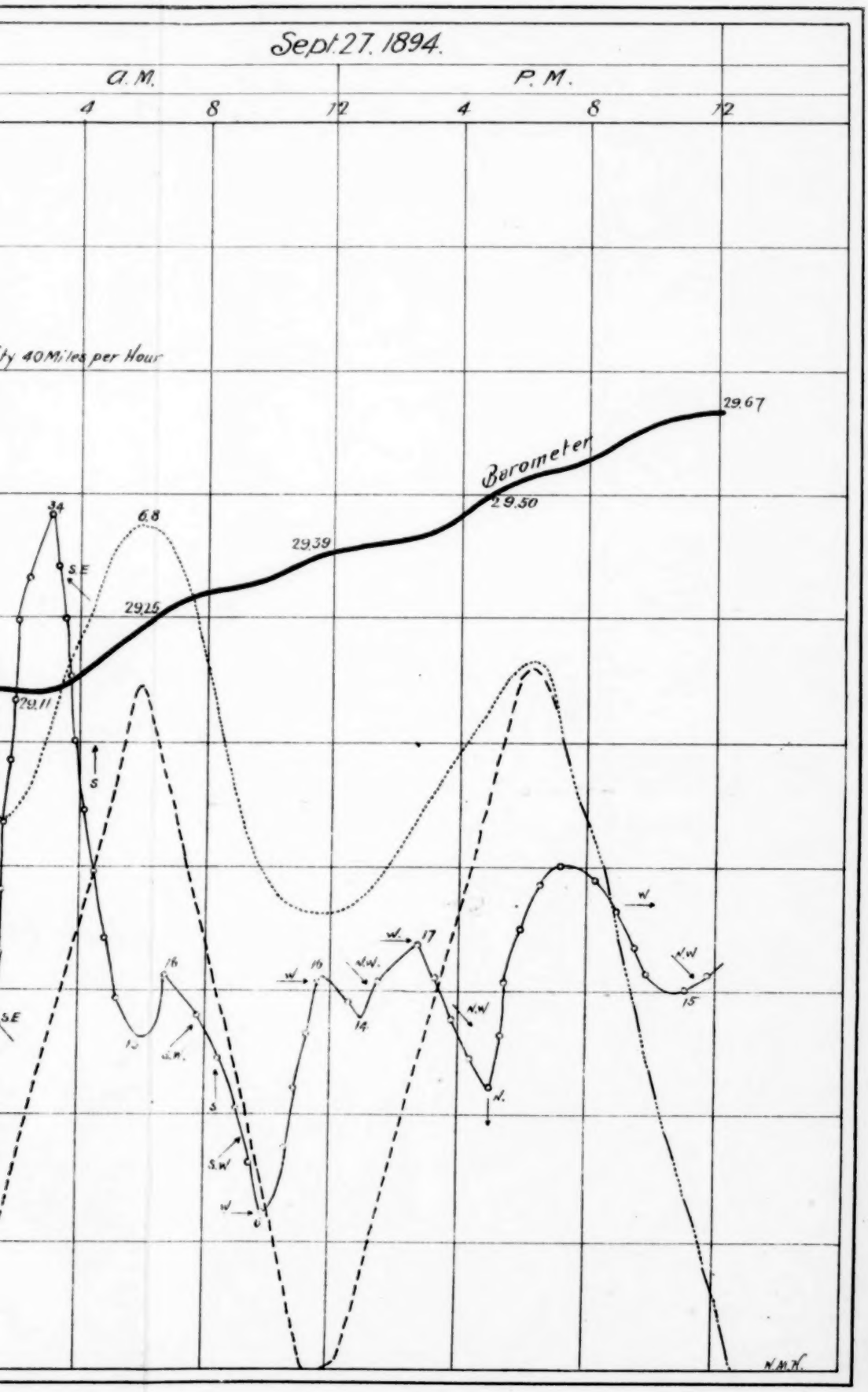
Diagram showing Barometric Pressure and Wind at the Weather Bureau Station, and Actual



IES IN FLOODS AND HURRICANES, by E. P. ALEXA

ather Bureau Station, and Actual and Normal Tide at Castle Pinckney, during the Gale



ALEXANDER.

g the Gale of September 25 to 27, 1894, at Charleston, S. C.